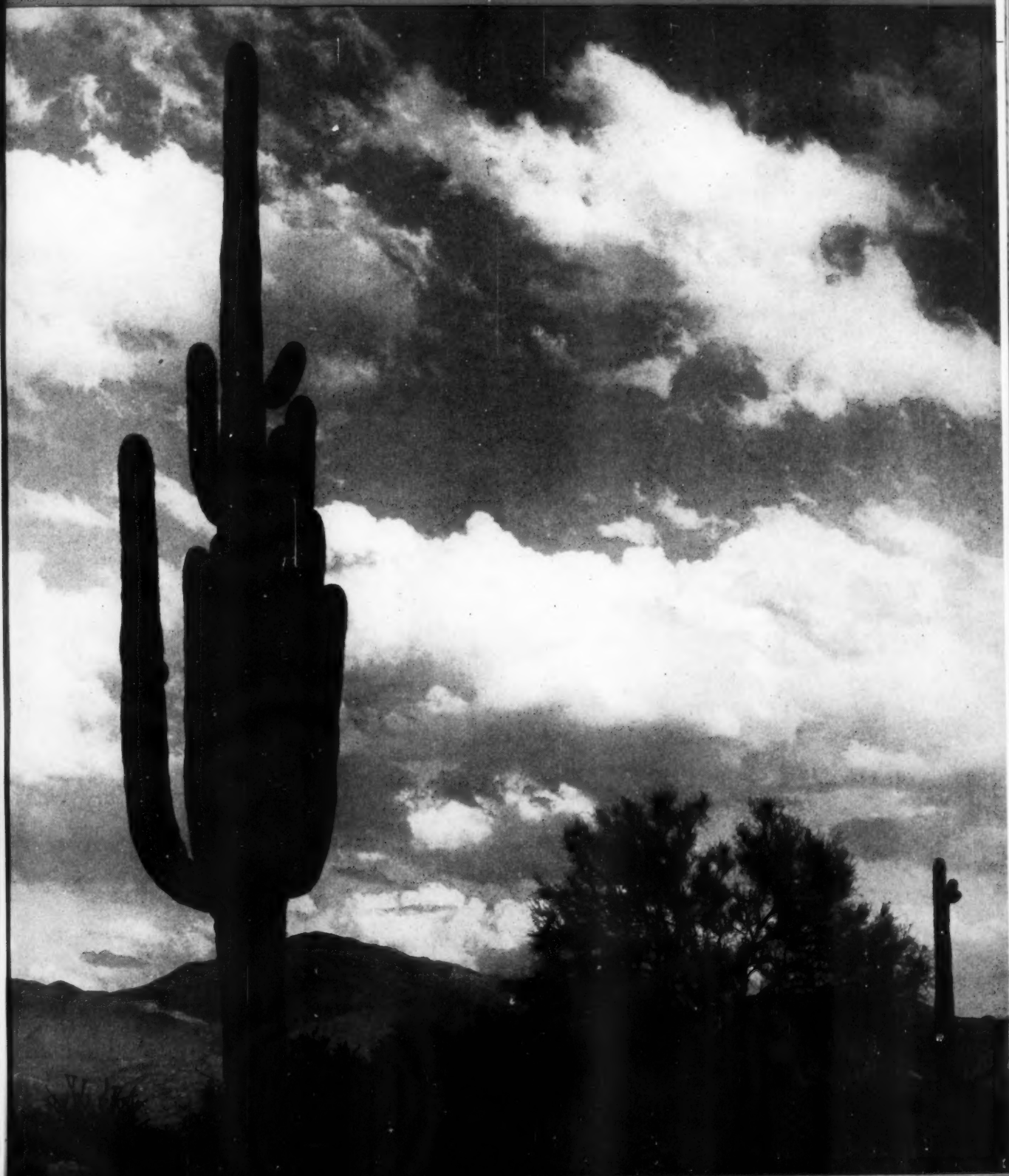


American

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MARCH 1951

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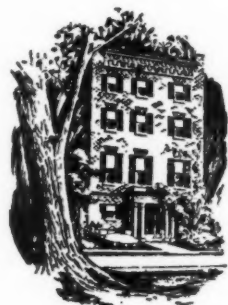
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The American Forestry Association, publishers of *American Forests*, is a national organization— independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

American FORESTS

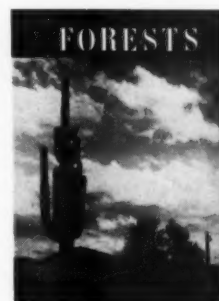
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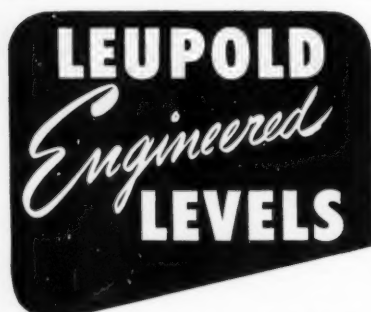
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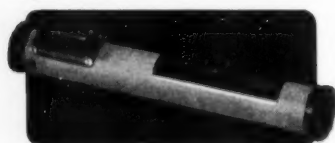
Symbolic of desert landscapes is the Saguaro or giant cactus which dominates this month's cover scene. The large and showy funnel-shaped blooms are the state flower of Arizona. Blooms are found in profusion near the tops of branches, and their waxy white petals open at night in May and June, giving off a melon-like odor. An unusual tree species, the Saguaro normally attains a height of 20 to 35 feet, though one champion at the Saguaro National Monument in Arizona is 52 feet tall, has an estimated weight of ten tons. The woody framework of ribs can be used for building materials or novelty furniture.



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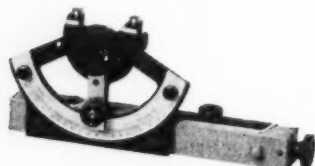


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American FORESTS

Forum

In This Issue—For our readers who occasionally find themselves perplexed with that always-important, often-frustrating "how" of an outdoor project or problem, *American Forests* this month offers three short articles featuring a "how-to-do" theme in as many varied fields.

On page 22, **Harry Botsford** offers *Soups and Chowders for Camp and Cabin*, a gourmet's guide stressing simple, nourishing, easy-to-fix dishes which will tickle the palate of the dyed-in-the-wool outdoorsman. Long a favorite to readers of these pages, the author serves as one of *Esquire's* editors. So tempting and inviting are his soup and chowder recipes that the conductor of this Forum has already kitchen-tested two of them. They're every bit as good as they sound!

William N. Harwood of Pocatello, Idaho has some sure-fire pointers on how to make your vacation cabin more comfortable with a minimum of effort and practically no expense. In *Rustic Camp Furniture* (page 19) he tells the step-by-step procedure for building rugged, serviceable and decorative furnishings. The forest will provide free raw materials, and to make it even easier for the amateur carpenter, the article is illustrated with sketches.

Helen Hahn, with the Ohio Agricultural Experiment Station at Wooster, really gets to the root of many a homeowner's problem in *The Root of the Trouble* (page 10). Here is sound advice on an effective method of keeping sewage drain pipes clean of roots and eliminating expensive sewer cleaning jobs in the future.

In the lead article this month, **S. L. Frost**, AFA's executive director, urgently endorses the U. S. Forest Service request to build access roads into untouched areas of our National Forests. Beginning on page 6, his *New Roads to Timber Plenty* is packed with ample facts to prove the need for timber haul roads to supply wood requirements during a national emergency, and there are figures to show construction will pay for itself within a few short years.

Forests of Bolivia (page 14) affords an interesting and informative report by **Henry S. Kernan** on a

South American neighbor's timber resources. The author recently completed a government forestry assignment in the country about which he writes, and his richness of detail make the analysis a solid evaluation of one of the world's biggest forestry question marks. He is currently living at Worcester, New York and operating his own timberlands, about which will soon appear a "don't miss" article.

The third in a series of rollicking short stories by **James Stevens**, well known West Coast author, will be found on page 11. Woven around Davy Crockett, transplanted with a Bunyanesque twist to the forests of the early West, *Davy and the Mountain Lamb* is an entertaining "tall tale" of the hero's legendary experience with an equally fantastic Indian maid.

G. H. Collingwood, nationally known forester, researcher and writer, again presents his authoritative *Washington Lookout* (page 4). This highly-rated feature dealing with national legislation and executive department activities affecting forestry and conservation is regarded as a leader in its field.

Date Palms of the Coachella (page 12), by **Mabel Otis Robison** of Minneapolis, Minnesota, traces the date palm's history in the Coachella Valley of California and explains the tree's importance to residents of the city of India which salutes this fruit with an annual date festival.

Other articles of interest include *Wringing Out a Spruce Bog* in which **John V. Hoene** describes a solution to the problem of growing black spruce Christmas trees in Minnesota's bog lands, and *The Lure of the Trail*, dealing with AFA's Trail Riders of the Wilderness program. The editorial rattles *Another Skeleton in the Dinosaur?*, taking issue with the peculiar circumstances involving Newton B. Drury's retirement as director of the National Park Service.

Looking Ahead—The April issue will carry a highly authoritative report on the encroachment and spread of anthracnose disease in America's beautiful flowering dogwood trees. Called *Are Dogwoods Doomed* by (Turn to page 41)

3 ways TO KILL SCRUB TREES with Du Pont "Ammate"

TIMBER GROWTH IMPROVES as much as \$3 more per acre each year after scrub trees have been killed, forest owners report. They may get this increase with the use of as little as 30 to 40 cents' worth of "Ammate" weed killer per acre. "Ammate" kills blackjack oak, gum, sassafras, elm, willow and other weed trees with little or no resprouting.

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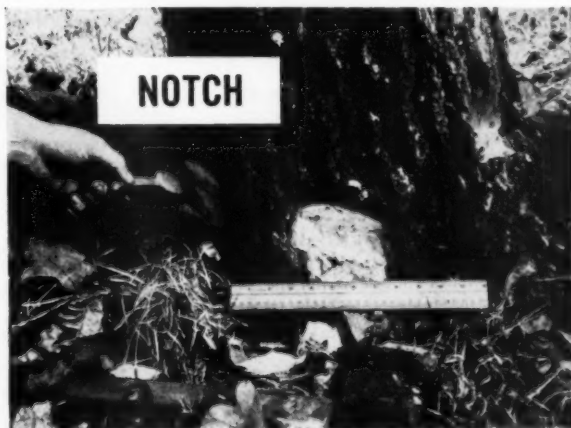
STUMP



2

Cut small trees close to the ground, leaving a V-shape stump. Pour a tablespoonful of "Ammate" crystals in the V. You can also use "Ammate" on larger stumps to prevent resprouting.

NOTCH



3

Chop out a slanting chip close to the ground. Repeat every 6 inches around the trunk. Pour a tablespoonful of "Ammate" crystals in each notch. This method deadens even tough blackjack oak with little resprouting.

WASHINGTON LOOKOUT

By G. H. COLLINGWOOD

Mobilization plans for government control of prices, ways to stimulate the production of lumber and other forest products, or to restrict their use in the civilian economy had not been announced at press time, but the recent organization of a Forest Products Division in the Office of Price Stabilization—comparable to a similar division in the National Production Administration—points toward such action.

The OPS Division of Forest Products, like its counterpart in NPA, is divided into two branches—one for lumber, softwood plywood and other wood products, and the other for wood pulp, paper and paperboard, and related products. These organizations conform with earlier notices of the National Production Administration which list these products as scarce materials subject to anti-hoarding provisions. To hold them in amounts greater than is necessary for normal use, or to hold them for resale at prices greater than prevailing market prices is illegal and may be subject to heavy fine or imprisonment.

Hearings preparatory to the drafting of appropriation bills, based on estimates set forth in the President's Budget given Congress January 15, are now underway in the House. Last year's experiment with a single, all-inclusive appropriation bill has been abandoned in favor of the previous custom of drafting separate appropriation bills for each of the several major governmental departments or groups of administrative agencies. The one-package spending bill proved unable to effect all the economies deemed necessary.

To correct this, Congress attached a "rider" ordering the President to reduce expenditures by at least \$550,000,000. This delegation of responsibility from the legislative body to the executive head was reluctantly accepted primarily as a means of saving time. Even so, two months of the current fiscal year had elapsed before Congress passed the omnibus bill. With the fiscal year beginning in midsummer, the delay was particularly hampering to such emergency control programs as applied to in-

sects and diseases. At no time, however, did Congress abandon the time-honored custom whereby primary responsibility for the several administrative agencies is delegated to a comparably named subcommittee of the large appropriations committee.

For example, appropriations to the Forest Service, Soil Conservation Service, Bureau of Entomology and Plant Quarantine, Bureau of Plant Industry, Soils, and Agricultural Engineering with its Office of Forest Pathology together with other bureaus and offices less directly associated with forests and soils, are considered by the Subcommittee on Agriculture. Upon this subcommittee, and especially upon its chairman, Representative Jamie L. Whitten, a Democrat from Mississippi, falls much of the responsibility for drafting the Appropriation Bill for the Department of Agriculture, and directing its defense during debate on the floor of the House.

Serving with Chairman Whitten are two Democrats, William G. Stigler, of Oklahoma and Joe B. Bates, of Kentucky and two Republicans, H. Carl Andersen, of Minnesota and Walt Horan, of Washington. With the exception of Representative Bates, all served on the same subcommittee during the 81st Congress. Mr. Bates takes the place occupied by former Congressman Edward H. Kruse, Jr., of Indiana.

Appropriations to the National Park Service, Bureau of Land Management, Fish and Wildlife Service, and associated bureaus are considered by the Subcommittee on Interior Department, under the chairmanship of Representative Michael J. Kirwan, of Ohio. Serving with him are three Democrats, W. F. Norrell, of Arkansas, Henry F. Jackson of Washington, and Foster Furculo of Massachusetts and two Republicans, Ben F. Jensen, of Iowa, and Ivor D. Fenton, of Pennsylvania. The only change in this subcommittee from that of the 81st Congress is the addition of Representative Furculo.

All hearings are in executive session and no information concerning them may be given publicity until the reports are printed to accompany the bill when introduced in the

House. Meanwhile, indication of what is being discussed may be gleaned by studying the figures in the Budget for 1952, and by reviewing the recently-released reports of the bureau chiefs.

The prospect of no increase over the current year's appropriation for cooperation in forest fire control—combined in the Budget with cooperation in tree planting, forest management and processing, farm forestry, and general forestry assistance—illustrates the adage that there is many a slip 'tween the cup and the lip. Under the amendment to the Clarke-McNary Act approved on October 26, 1949, the appropriation for the current fiscal year may not exceed \$13,000,000 and for next fiscal year \$15,000,000. Yet the current appropriation is \$9,504,900 and the budget estimate for the fiscal year beginning July 1, 1951 is \$9,493,500.

Arguments for larger sums, if not for the full amount authorized in the amended Clarke-McNary Act, can be found in the report of Chief Forester Lyle F. Watts, for 1950. This report points out that standards of production are too low in some areas, and protection forces and facilities too thinly spread in others, and that protection now afforded some 357 million acres of state and private forest and watershed lands should be improved.

To raise the forest fire control program to adequate standards, he implies, will take more money, as will the continued extension of organized protection urgently needed on some 70 million acres now without protection. It was to cover these deficiencies that the Clarke-McNary Act was amended so as to provide authorization for increasingly larger annual appropriations until the maximum of \$20,000,000 is attained.

The same report tells of increasing fire hazards within the National Forests. In varying degrees within the several forest regions of the country, these hazards are comparable to those on state and private forest lands.

The Chief Forester also pleads for strengthened cooperative protection against forest insects and diseases. He refers to legislative authorization provided in the Forest Pest Control Act for developing the needed action to discover and suppress outbreaks of destructive bugs and blights.

(Turn to page 41)

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New Roads To Timber Plenty

Access to remote areas of our National Forests is a vital need in a national emergency. Experience proves new roads would soon pay their way through increased yields of timber

By S. L. FROST

CONGRESS willing, Uncle Sam's foresters stand ready to launch one of the biggest, most vital road building programs in history. The roads will be blasted and bulldozed mostly into up-to-now, inaccessible, remote timber reserves of the

National Forests and O & C lands to get at billions of feet of sawtimber as part of an overall plan to supply wood for the current national emergency.

The job is a big one, both in scope and costs, but federal foresters assure us the timber haul roads will

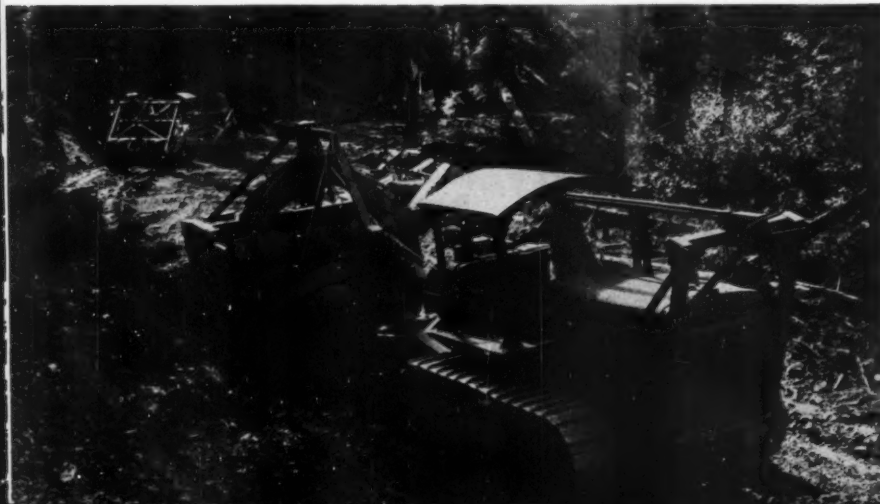
pay their way—will, in fact, pay for themselves in a very few years and will continue to bring a handsome return on the investment for many additional years.

Lyle Watts, chief of the U. S. Forest Service, and his staff estimate that an expenditure of about \$100,000,000 to build main-haul roads into inaccessible timber areas in the National Forests will make it possible to increase within a very few years the sustained-yield output of timber by at least 50 percent. It will make possible an increase from the present cut of around four billion feet a year to some six billion feet. This year the value of timber cut from the National Forests will amount to some \$40,000,000. An increase of two billion board feet in timber cut, at present prices, would bring into the Federal Treasury an additional \$20,000,000 a year—and this annual return could continue indefinitely.

Suppose you were the owner of a few hundred billion feet of timber,

An access road in the making in the rich Flathead National Forest of Montana

U. S. Forest Service Photos





Aerial view of an Ohio Match Company logging camp shows a few of the roads penetrating Coeur d'Alene National Forest

and suppose you knew that by spending \$100,000,000 you could increase your return by \$20,000,000 a year. What would you do? You'd go for it, of course. The Forest Service believes Uncle Sam cannot afford to pass up such an opportunity, either. Such a public investment in the access roads needed to get an increased timber yield is plainly a good business proposition.

In addition to being a matter of good business, there are several other important reasons for these access roads. The most compelling reason, of course, is the extra timber needed by the nation. We need it now, and the demand apparently will accelerate with increasing requirements of national defense. It will be vitally important in the event of an all-out war.

One of the big stumbling blocks in boosting timber production on federal lands has been their inaccessibility. This is particularly the case in the National Forests of the West which mantle great mountain ranges

like the Rockies, Cascades, Sierra Nevada, Wasatch, and Bitterroot. National Forest timber alone accounts for half of the commercial timber supplies in this region. The new roads thus will open added timber sources to many industries dependent entirely or in part on government timber.

The Forest Service has not been able to bring its full management plans into operation on many of these National Forests because of their inaccessibility. Much of the timber is old growth and overmature. A lot of it has been passing out of the picture from old age—a tremendous loss in dollars to the American people and a grossly needless waste of valuable wood fiber.

Many of these remote mountain forests have been hotbeds of insect and disease infestation. The decadent timber stands have proved to be lush breeding grounds for forest pests which have wreaked havoc on many millions of feet of beautiful timber and spread their deathly spores and

young into widening areas of other federal and private timber stands. The Forest Service has been almost completely frustrated trying to fight these holocausts with only horse and buggy means of getting into the areas. They know that improved management in the long run will be a big factor in finding the answer to the insect and disease problem and that roads are the first need.

Increased production from government timberlands afforded by the road building program will also be of benefit to private forestry. It will take some of the strain from private lands to meet military and domestic timber needs, and this should be helpful in a long-range program of rehabilitating many of these areas.

Long before National Forests were established, the more accessible forest lands, carrying the heaviest stands of timber, had passed to private ownership. National Forests were only remnants and remote back-country timberlands. Today, most private forest



lands have been cut over one or more times. Second-growth stands are under management on a great many of these lands, but other large areas are presently poorly stocked or non-productive.

Many progressive forest industry companies are now observing good cutting practices designed to maintain continuous timber growth on their holdings. They are protecting and reforesting their cutover lands. But on much private forest land it will be decades before new timber crops are ready for harvest.

The 73 million acres of commercial forest land in the National Forests comprise only about 16 percent of the nation's commercially important timber area. But on that 16 percent, National Forests now have more than 30 percent of the nation's total volume of standing sawtimber. They have a large share of the remaining old-growth timber. A good many sawmills formerly having supplies of private timber are now largely dependent on National Forest timber to keep going. National Forest timber, then, is becoming more and more important in meeting the country's needs for forest products.

Primarily because access roads are lacking, there are no timber operations under way in many large areas of commercial forest land in the western National Forests. Many areas cannot be operated at sustained-yield capacity until a system of primary haul roads is constructed.

There is, for example, the North Umpqua Working Circle in the Umpqua National Forest of Oregon. A working circle is an area which in size, location, topography, timber-growth potential, tributary community, and such, makes a logical unit for a sustained-yield timber operation. The North Umpqua area covers some 420 square miles and has a stand of 8.6 billion feet of timber, mostly choice Douglasfir. Two branch roads penetrate the area only a short distance. Timber contractors are now cutting and hauling out over these roads about 25 million board feet of logs a year, worth about \$500,000 on the stump (that is, when sold as standing timber).

Eighty miles of main-line log-haul roads will have to be built before cutting can be stepped up to the full sustained-yield rate in the North Umpqua Working Circle. The area's potential annual production rate is 115 million board feet. That potential cut,

Timber like this growth in Olympic National Park should be accessible

at present stumpage prices, would be worth \$2,300,000 a year.

The North Umpqua is rough mountain country. The cost of road construction there will average nearly \$50,000 a mile, or close to \$4,000,000 for the 80 miles. But expansion of the road system will make possible an annual cut nearly five times greater than the present cut. At the full production rate, the increase in federal revenue will be \$1,800,000 a year—enough to pay for the road construction in a little over two years.

Will it really be that good? Perhaps if you look at some of the things that have already happened you'll think the Forest Service estimates are too conservative. In the Plumas National Forest in California, the Forest Service completed construction of seven miles of access road in October, 1947 at a cost of \$80,000. By September 1, 1948, timber worth \$140,000 had been hauled out over that road. The road much more than paid for itself in less than a year. And only seven percent of the total stand tributary to the road had been cut.

In Nezperce National Forest, the Forest Service constructed five and one-half miles of access road at a cost of \$34,743. The first timber sales in the area covered only 26 percent of the timber volume available to the road, and the amount collected for stumpage exceeded the total cost by \$6782.

Another access road job in the same National Forest—seven miles of reconstruction and surfacing—brought in more than a third of the cost through timber sale revenue in the first year. No federal timber had been sold in that area prior to reconstruction of the road. The old road had been used to haul out about a million feet a year of logs cut from private timberlands. After the road improvement, the output of private timber from the area increased to five million feet in the first year, in addition to 3.7 million feet hauled out for federal use.

These and most other new access roads made possible far more than an increased production of timber. They are being used and appreciated by local settlers, livestock grazing permittees, hunters and fishermen and other back-country recreationists; they facilitate administration of the National Forests and are a big help in protection of the forests from fire. Finally, they improve transportation and service and help business generally in the local communities.

There were old roads in some National Forest areas even before the

National Forests were established. Over the years, the Forest Service has constructed many more miles of roads with forest development road funds appropriated by Congress, and with "ten percent funds" (percentage of National Forest receipts authorized for expenditure on forest roads.) Co-operative monies supplied by states and counties have also helped to extend the road mileage. During World War II funds were made available under the Defense Highway Act for 257 emergency road projects to provide access to timber stands or strategic mineral deposits in the National Forests. During 1946 and 1947 the National Housing Agency made available \$12,900,000 to the Forest Serv-

tend and improve the main-line roads needed for log hauling. That calls for construction or improvement of about 4550 miles of access roads. According to Forest Service estimates, this could be accomplished with a total expenditure of approximately \$100,000,000, spread over a period of five years. The increased timber harvest made possible would, at current prices, bring into the Federal Treasury about \$60,000,000 annually, or \$20,000,000 more than the present timber harvest brings in.

The Bureau of Land Management of the Department of Interior, which administers more than two million acres of O & C lands in Oregon, estimates its needed roads at 430



Logs trucked from newly-opened areas will soon pay the cost of access roads

ice for access road building to help supply lumber needed for the post-war housing program.

The road transportation system in the National Forests now totals 107,731 miles. It includes many miles of old roads unsuitable for modern traffic; and many additional miles have deteriorated for lack of sufficient maintenance, especially during the war when little maintenance work was done. More than half (54 percent) of the total mileage is now of unsatisfactory standard. To achieve reasonably adequate protection and full use of National Forest resources will require the improvement of those roads now inadequate or in poor condition, together with the construction of about 36,000 miles of new roads, the Forest Service states.

Biggest immediate need is to ex-

miles to be built over a period of years at a cost of about \$25,000,000. Estimated production would be stepped up from 180 million board feet to 300 million board feet.

On every logging job, some lateral road construction is, of course, necessary to get logs to the main-haul roads. Most of the lateral road construction is done by logging operators who purchase government timber. The Forest Service also requires logging operators to accomplish or finance special maintenance needed for their heavy hauling on main-line roads.

It doesn't follow, however, that these logging operators should be expected to build the needed main-line access roads, too. To require timber purchasers to construct these roads

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Danger lurks beneath beauty of tree-lined street

the ROOT of the trouble

By HELEN HAHN

Don't chop down that weeping willow just because it's a persistent pipe plugger. Here's how to keep the sewer drain open and save the tree, too

IF you have about decided to do away with the weeping willow on the front lawn because it is a persistent pipe-stopper, here is some cheering news for you: Copper sulphate crystals can keep your pipe open without any more expensive sewer cleaning jobs in the future. Here is all you need do.

If your sewer is already pretty well filled up (and who of us does anything about it until things get pretty bad), call in the roto-rooter man for a good initial cleaning. Don't be amazed if he pulls out a miniature root system from the pipe. When you are sure he has removed all woody root material, start the copper sulphate treatment. A willow can stop up a well cleaned four-inch pipe in a year's time, but the average elm or maple or other tree will take about five years.

You should have on hand about ten pounds of ordinary copper sulphate crystals, sometimes called blue vitriol or snow copper sulphate, available in most drug stores and seed stores. See that it is crushed rather fine for quick dissolving.

Some night when the household is settled in bed, pour about two pounds of the crystals into the toilet and flush

them down. Then run about a gallon more water into the drain to make sure most of the chemical reaches the soil pipe where the roots are. The longer the distance, the more water you will want to send after the crystals. Then don't run any more water for at least six hours.

Here are some important don'ts: Do not pour copper sulphate into a wash basin or sink because such pipes are easily corroded by the chemical. Low grade iron and clay pipes such as are used for large connections do not corrode easily, so the copper won't harm a porcelain toilet bowl. If you have a septic tank, don't run blue vitriol into it. The tank depends upon lively, wide-awake bacteria for efficient action in breaking down sewage to a less harmful form, and copper would kill them or ruin their ef-

fectiveness. If it is possible to turn the sewer line aside temporarily between the point of root stoppage and the tank entrance, treatment can be accomplished with a lot less digging or probing.

To be effective, the copper treatment must be repeated once a month during the growing season. A pound and a half of the crystals will be enough after the first time, but be sure to watch the calendar from early spring until leaf-fall.

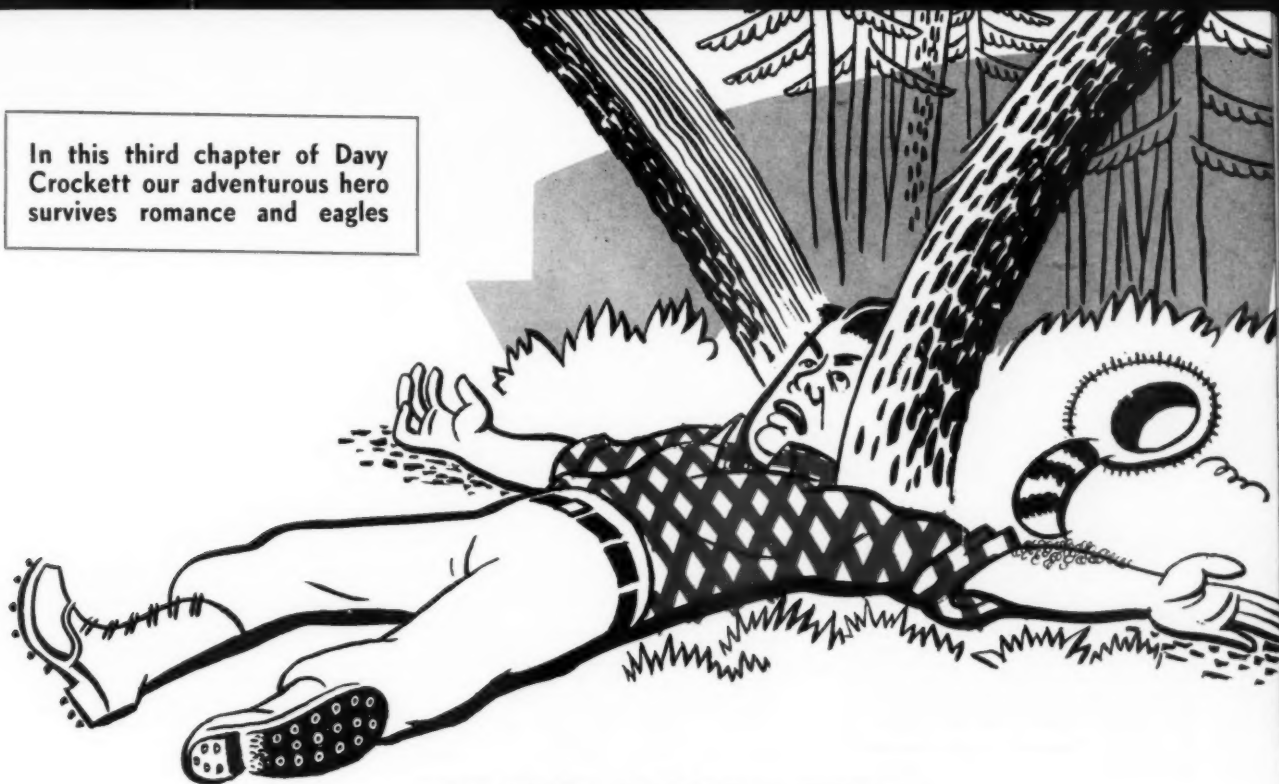
Sometimes a second clogging occurs after the first treatment, especially if the pipe was not thoroughly cleaned at the beginning. What has happened is this: Copper sulphate, being a plant poison, quickly kills living roots wherever it comes in contact with them. However, they re-

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All these roots came from the small tile drainpipe shown in center of the photo



In this third chapter of Davy Crockett our adventurous hero survives romance and eagles



DAVY AND THE MOUNTAIN LAMB

By JAMES STEVENS

ONE NIGHT in the summer of 1904 Uncle Ben Cotter sat on a pine log out in front of his sawmill camp's bunk shanty and told of Davy Crockett's first trip into the land of the Seven Devils.

"Aleck Mackenzie was the first white man in these mighty mountains," said Uncle Ben. "But Davy was not long after him. The great Crockett was young then, limber, full of sass and vinegar, and with a head on him that bore the hair of Samson. This powerful hair of his'n caused him to be pestered by the mountain eagles, I can tell you. How natural it was, for the eagles saw the hair of Davy Crockett as the best framing ever heard of for their nests. That's how the Mountain Lamb met Davy. She followed the eagles to him."

It might be worth mentioning again that Uncle Ben Cotter was owner of a jack sawmill and planer and a horse logging layout on the piney slopes of Mt. Hitt, up a branch of the Snake in Southern Idaho. On north were the Cuddies and the Seven Devils ranges. There I had my first job in the woods at the age of twelve.

For the fifty cents per ten-hour day, with board, that Uncle Ben paid me, I was regularly chased around from brushhooking to bullcooking to off-bearing and piling from the planer.

Today Ma Cotter was ailing and abed. I'd been helping the hired girl, Susie Makin, in the cookshack. She was fifteen. After supper the crew began to torment me with big-mouth gab on what all Susie and I could have been doing all day. Uncle Ben, stopping by for a twilight spell, took my part in the way of starting a tale about his one and only hero, Davy Crockett.

Yes, sirs, in his young time Davy came West (Uncle Ben told on). He was behind Boone but before Bridger and Carson, and he was on Mackenzie's tracks when he turned north from the Snake toward the Seven Devils. Then the eagles took notice. The Indians made smokes. The bears skedaddled. How the rocks did roll!

The Seven Devils were the home of the Mountain Lamb. She was the kind of Indian maid who could peel the bark off a yellow pine with her thumbnail and sing so screeching sweet it would put the coyotes to

sleep. Up in the Salmon country the Lewis and Clark scouts had seen the Mountain Lamb all at once choke a timber wolf with her left hand and a cougar with her right, while she held a grizzly by the scruff of his neck in her teeth and tramped the life out of a nest of brush eels with her bare feet—big diamondbacks with thirty or more rattles apiece. Lewis and Clark turned their expedition right around for home, but as the Mountain Lamb failed to chase them they picked up courage enough to make a mighty shoofly on north and then west through the Bitter Roots.

This night the Mountain Lamb was back home. She could not help but hear the youths' carefree screams of Davy Crockett from the south canyons, for they shook rock slides loose from the pinnacles. For the first time in her life of an Indian maid the Mountain Lamb stood a-tremble and bewitched.

Then the wonderful screams and mighty rock slides stopped in a thundering smash. It was quiet in the mountains until daylight. The Mountain Lamb spied the eagles as the

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DATE PALMS

OF THE COACHELLA

In February, the city of India, California holds its annual date festival. The date is the symbol of Coachella Valley, of its desert beauty and its desert wealth. It is a symbol of the unique climate which makes this valley almost the only place in the United States where the date palm prospers.

Once this 70-mile long desert was arid, the soil composed of myriads of tiny shells left behind when an ancient sea receded.

Missionaries who planted date palms in the valley and dug wells to supply water were amazed at the way the plants flourished. Settlers were attracted and with the planting of more dates, the demand for water exceeded all that came from wells and the snowy San Jacinto and San Geronio mountains.

The Department of Reclamation laid out the All-American Canal which started 18 miles upstream from Yuma, Arizona. Day by day the bulldozers excavated and a huge

By MABEL OTIS ROBISON

trimming machine rolled over the rails, followed by an equally large paving machine which lined the excavation with concrete.

Date culture followed the water. This art, being less than 50 years old in the United States, presented many problems. Growers learned that date palms cannot be grafted or grown from seeds but must be propagated from off-shoots of a parent palm. Great care and constant irrigation are required in starting new trees.

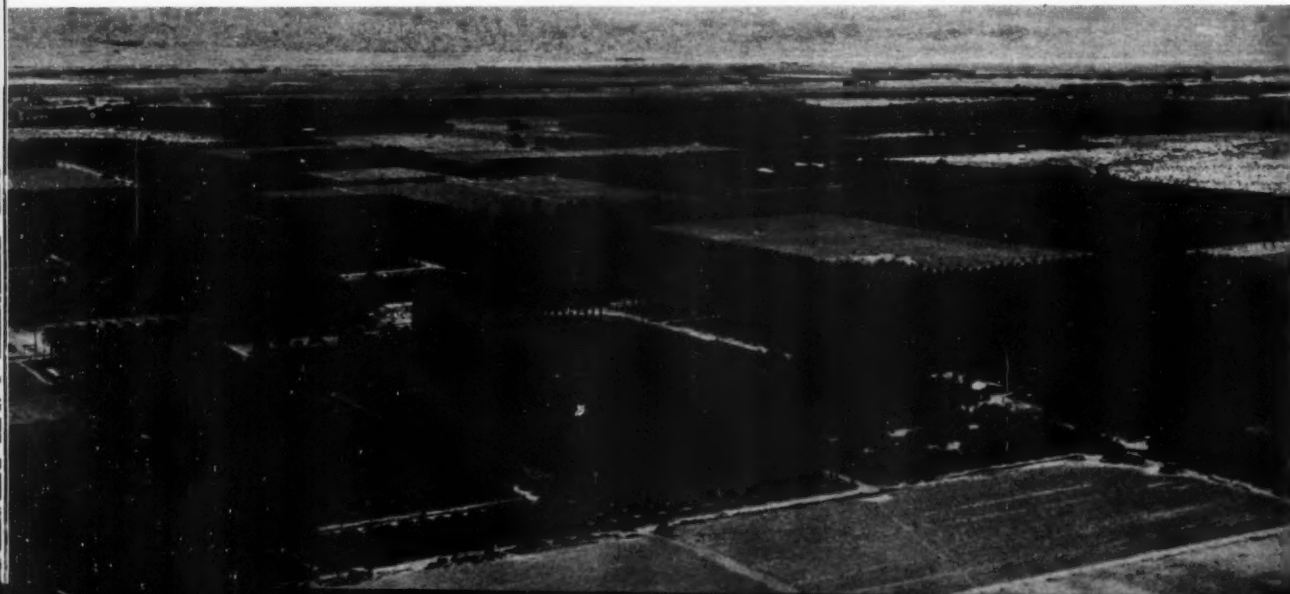
Nature does not provide for the pollination of these pistillate flowers, so this must be done by hand. When the fruit-bearing bloom opens it is necessary that a strand from the male bloom be inserted. Pollen thus diffused comes in contact with the date blossoms on the stem. One male palm, planted in a harem of 49 females, will pollinate them all. After pollination, the clusters are covered with

umbrella-like contrivances which shield them from dust, rain, insects and birds.

Clusters on the palms average 25 pounds each and must be thinned by hand. The harvest lasts from September through January, and platforms are used to reach dates on the higher trees. Sixty-foot elevators on wheels, holding eight pickers at a time, are erected for use on very tall trees. When trees reach a height of 80 to 100 feet, pickers are suspended in special saddles like those used by telephone linemen. A full-bearing tree produces up to 200 pounds of fruit, and it is possible to harvest 10,000 pounds from one acre. Date trees often produce up to 200 years after which its wood can still be used for lumber, its leaves for thatch and its fiber for rope.

Visitors may tour processing plants in the valley and see dates fumigated, cleaned, polished, graded and made ready for shipping. People there call them Desert Gold.

Panorama of the Coachella Valley — one of few places in the U. S. where date palms prosper





Pickers harvest luscious dates from a garden of 12-year-old trees. On the older, taller trees pickers are suspended in special saddles



A fruit-bearing female date bloom being pollinated by contact with a male flower



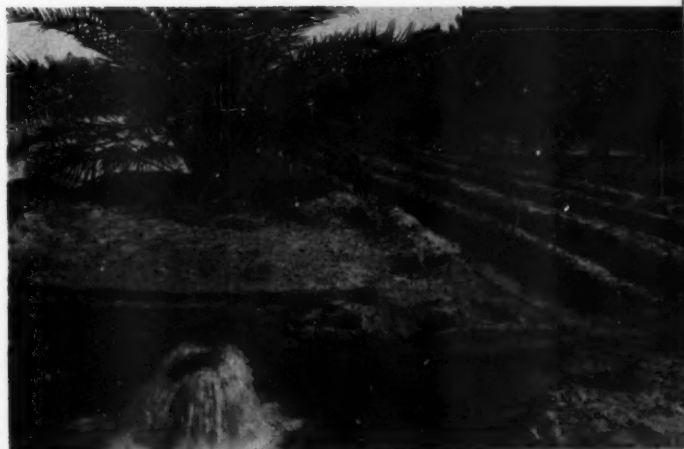
Irrigation is an essential for successful date culture. Here water from the All-American Canal is routed into the Coachella branch



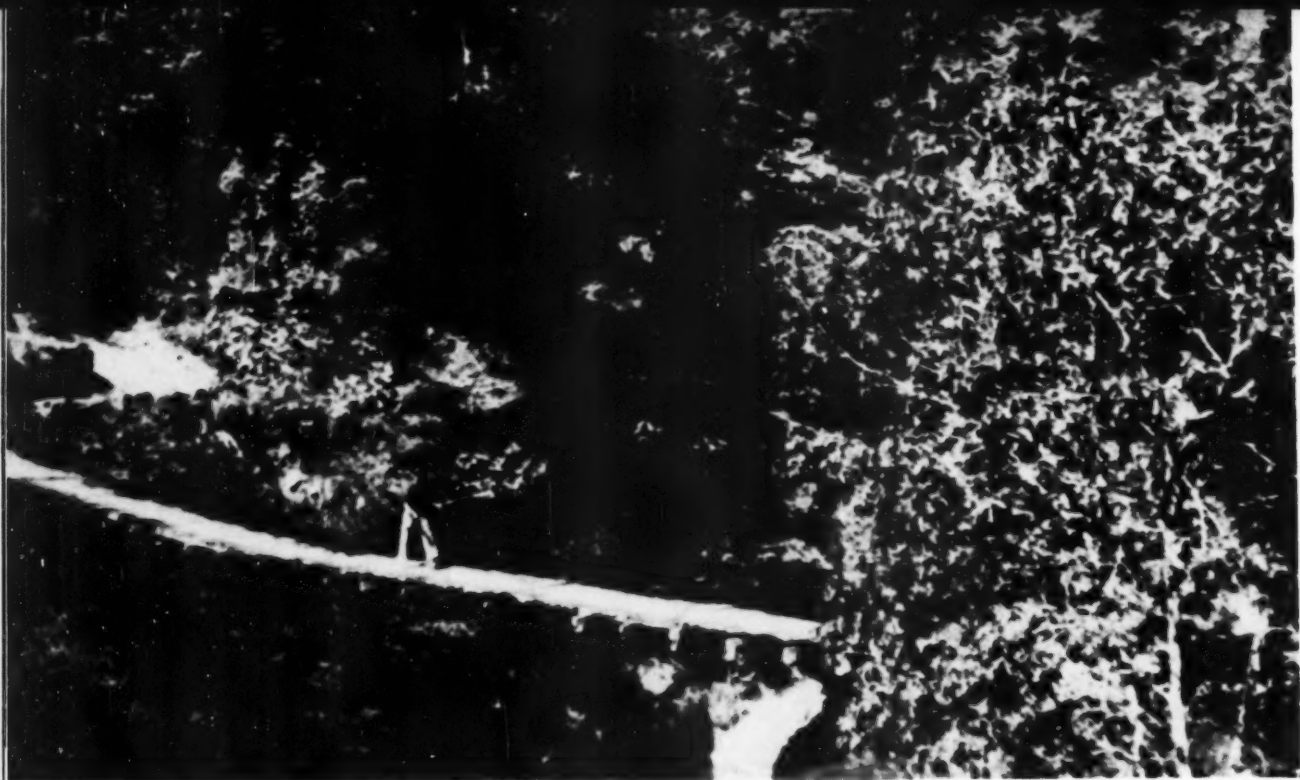
Off-shoots are cut for planting. Trees will not grow from seeds or grafting



Planting time for Deglet Noor date shoots. It requires six years for them to mature into profit-bearing trees



Life-sustaining irrigation nourishes these five-year-old palms into a mature productivity which may last 200 years



Forests of BOLIVIA



This South American country's forests rank as one of the world's richest, most extensive areas of untouched woodland, yet their exploitation remains in a primitive stage

By HENRY S. KERNAN

WHENEVER a balance sheet of the free world's forest resources is drawn, the largest question mark stands beside the Amazon Valley. Here, four and a half centuries ago, Portuguese navigators discovered a dyewood and called both it and the strange new land Brazil. Yet forest exploitation remains in a primary stage. Rubber, Brazil nuts and mahogany have entered world trade from the Amazon; but the forest as an entity made up of managed units of sustained production has yet to be surveyed, studied, and delimited.

Bolivia's share of the immense jungle comprises a large part of the Madeira River headwaters—one of the Amazon's broadest tributaries. This share, small as it may appear on a map, stands as one of the world's richest, most extensive areas of untouched woodland. In addition, Bolivia has a large, little-known forest lying south of the almost imperceptible divide running east and west through the eastern lowlands and tipped toward the Paraguay drainage. Together they cover about 128 million acres, or 32 for every citizen. Thus as regards forest area, each Bolivian is born into a rich heritage.

This fact is not of immediate concern, however, to the 80 percent who live and shiver at altitudes over 10,000 feet in the western third of the country—heartland of Bolivia where spring the traditions and folk-ways most typical of national life. Also in the west is the center of the lopsided, tin-tainted economy which Bolivians and foreigners alike consider inevitable, and as overpowering as the two mighty cordilleras of the Andes and the bleak plateau between them.

This plateau, or puna, is not naturally forested. The few native species such as *kishuara*, *keñua* and *pino de monte* are caprices of nature stranded upon these chill highlands where wind, cold, and drought combine to form one of the most inhospitable climates inhabited by man. Trees are ordinarily too scattered to form forest associations capable of establishing influences upon the soil and climate, or to supply an appreciable amount of wood to fuel-hungry Aymara Indians.

One exception is the *keñua* forest surrounding Mt. Sajama on the Chilean border. This small member of the rose family has a dense, oily wood superlative for charcoal, resulting in a brisk and highly destructive trade with the capital city of La Paz. The world's highest forest and Bolivia's only national park has thereby become a pathetic and threatened remnant.

Where the eastern puna breaks downward into a broad belt of steep valleys and sharp ridges, live Quechua Indians—descendants of colonists from the Incan Empire of Peru—who are hill farmers of corn, small grains and sheep. Their use of wood is confined to such simple and primary things as household implements and fagots. They have no conception of the forest as a protective cover or as a means of procuring a steady and convenient supply of wood products for sale.

Sparingly scattered over the dry, barren slopes is a curious little tree, called *molle* in Quechua speech. Superficially, the branching habit and plumes of whip-like foliage resemble

the willow, while clusters of bright red berries suggest the sumac to which it is related. The *molle* yields excellent fuel and has an unbelievable ability to endure the most rigorous conditions of sterility and drought. It is seldom cut down, but gradually hacked to pieces, limb by limb.

For approximately two thirds of its length in Bolivia, the eastern cordillera faces northeast. In this position it intercepts heavy-laden clouds which drift up the Amazon Valley and pour their torrents of rain upon a series of deep, winding gorges known as the Yungas. The resulting forest cover is extremely dense and abounds in such fine woods as Spanish cedar and walnut. Moreover, the Yungas are the original home of *Cinchona Ledgeriana*, or quinine tree, now cultivated in Java. Within the thin, bitter bark of this small and slender tree are hidden precious alkaloids which for centuries were the only specific medicine against malaria. The proportion of cinchona in the forest, never large, has been lowered almost to the vanishing point by indefatigable *quineros* or bark-gatherers. Otherwise the forest has been little cut because high

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↑ A lone sawmill near Keyes typifies Bolivia's continuing lack of modern methods of timber production



← Armed logging crew near Santa Cruz guards some of Bolivia's incomparable and plentiful mahogany logs



Exploring wonders of the Continental Divide in Montana's Flathead-Sun River Wilderness



THE LURE

MARCH, with its promise of release from winter's frigid and confining grasp, brings with it an urge to get just a bit more out of the time which can be spared this summer for outdoor recreation and vacation. For the normally active individual, with an appreciation of nature's heritage and a leaning toward adventure, what could be more appealing than a ten or 13-day pack trip expedition into one of the little known wilderness areas of our western National Forests and Parks.

The prospect of such an exploratory outing becomes instantly more



Banks of snow mantle the rugged peaks in the High Sierra primitive area near Mt. Whitney



Camping along the trail prompts a challenge to improvise a few of life's comforts and needs

Quetico-Superior canoe trips offer an unusual and highly popular variation of trail riding



E OF THE TRAIL

alluring once you are confronted with a baker's dozen list of trips from which to choose, your choice of seven states and a selection of starting dates ranging from early June to September. Most important of all is the knowledge that membership in The American Forestry Association is the "open sesame" for participation in one of these ventures which this season will be operating on a low cost basis for the 18th year.

This, in a nutshell, is the Trail Riders of the Wilderness program which the Association organizes and directs each summer, with the coop-

eration of the United States Forest Service and the National Park Service, the two government agencies responsible for the administration and protection of most remaining remnants of our wilderness domain. More than 1700 men and women have taken part in 102 separate expeditions exploring more than 11,000 miles of uninhabited back country. They have discovered for themselves the priceless solitude and grandeur of the magnificent wilderness which was once America.

The Trail Rides strike a responsive chord in people from every walk of

life. Men in the business world have found the trips a splendid tonic for frazzled nerves and physical stagnation. There's a special appeal, too, for teachers and others connected with the arts and sciences. Far from being stag affairs, many of the expeditions hit the trail with women as numerous as the men.

There's a lure to the trail which any lover of the outdoors, be he teen-ager or oldster, finds irresistible. Some are drawn by the opportunity to wet a fishing line in a little known stream or lake in the hidden canyons of the Pecos Wilderness of New Mex-



The breathtaking Maroon Bells-Snowmass in Colorado — a sample of the West's wonders



End of a perfect day. Songs in the congenial atmosphere of a glowing campfire in crisp night air



A fastidious Trail Rider shaves as the tantalizing aroma of brewing coffee permeates the morning air



The grandeur of Idaho's Sawtooth range, one of the myriad awesome sights that stud the route of Trail Rider trips

ico or in a mountain creek in the shadow of Washington's Mt. Olympus. Others thrill to climbing, astride a well-trained horse, the highest mountain in continental United States—Mt. Whitney in California. Perhaps it's the mountain foliage and flowers which open new vistas to those of a naturalist bent, or the rock formations of interest to geologists.

All of this is being offered once again in the 1951 Trail Riders of the Wilderness expeditions. What's more, it is made available in a package offer which takes all the planning and worry off the rider, leaving nothing to mar the enjoyment of the trip, with its pleasant evenings of comradeship around a campfire and tasty meals prepared in the open.

Under the direction of The American Forestry Association, expert guides, wranglers and packers anticipate every need of the trail. Accompanying each expedition is an official representative of the Association, either a professionally trained forester, park naturalist, botanist, or staff member. Also assigned to each trip is a qualified physician, many of whom ride on expeditions year after year.

It all began in July of 1933 when The American Forestry Association conceived the idea of guiding a pioneer "Trail Riders of the National Forests" expedition into the great South Fork Wilderness of the Flathead National Forest in Montana. While the venture had an educational motive—to acquaint riders first hand with the beauties of the nation's seldom seen primitive areas and to arouse in them a desire to protect and conserve our forests—it had the more immediate lure of offering a well organized share-the-cost vacation previously feasible only for those having much more time and money.

With no previous experience in such expeditions to guide them, those pioneer Trail Riders had to undergo many more hardships than they do today, but they thoroughly enjoyed their six days of "roughing it" in an untamed wilderness where the mountains lose their peaks in the

clouds, where canyons sink out of sight and where virgin forests and wildlife take on added lustre.

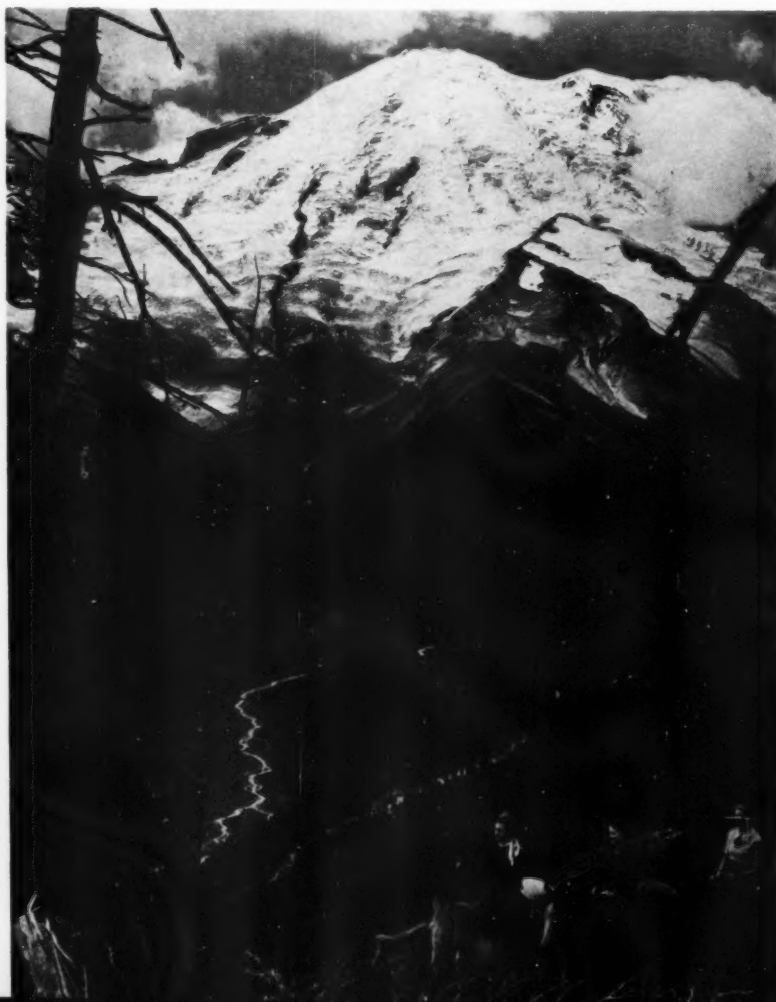
That first group, 22 in number and more than half of them women, brought back a contagious enthusiasm which has been fanning wider ever since. Their sentiments can best be recaptured by the telegram sent Association headquarters: "Entire party of Trail Riders Trip Number One has returned to Missoula (Montana) safe, sound and happy. Trip was complete success and through country we never dreamed existed. . ."

Essentially the same area has been designated the locale of a trip ever since. It's now called the Flathead-Sun River Wilderness expedition and includes the Lewis and Clark as well as the Flathead National Park. Dates for this year's expeditions will be July 5 to 16 and July 16 to 27.

Of the other 11 expeditions offered during the coming summer months,

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Riders pause beneath towering Mt. Rainier, Washington. Behind them is the curving ice mass of Emmons glacier





Rustic Camp Furniture

YOUR vacation cabin can be made much more comfortable with the addition of a few pieces of easily constructed rustic furniture. And, armed with only a few simple tools, it is easy to build many of these articles right out in the woods.

Many experienced woodsmen have completely furnished their forest abodes with only an ax and a knife, but the amateur craftsman should have in addition a saw, brace and bits and a small plane.

Almost any woods will provide the necessary materials. For legs and braces of stools and tables you will need a supply of straight smooth-bark saplings or limbs from one to four inches in diameter. The best wood for these parts is birch or hickory, although maple, poplar, iron-

By **WILLIAM N. HARWOOD**

wood or cedar will serve.

Tops for the stools and tables may be constructed from halves of split logs. Select wood which splits easily such as oak, basswood, spruce, beech, birch or chestnut.

If you are in the vicinity of a saw-mill you may be able to obtain a few rough sawed boards, since split logs are somewhat heavy for some pieces of furniture. Failing in this, it is possible to rive out narrow pieces from oak, soft pine or poplar, smooth their faces with plane or drawshave, and use them as boards.

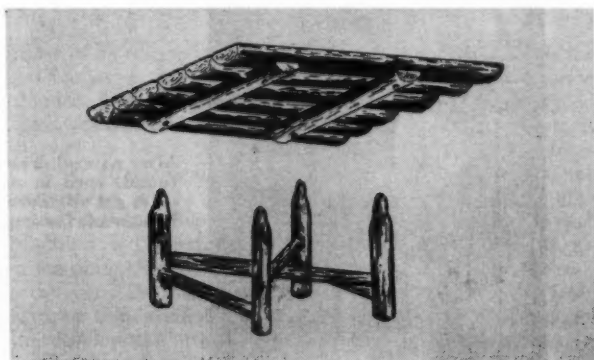
Perhaps the handiest articles to have around camp are stools. If you can find a three-forked branch and a short length of wide board, like a box top or end, you can construct a

comfortable seat as shown lower right. Merely nail, or fasten with a peg, the wide board to the intersection of the branches, and the seat is complete.

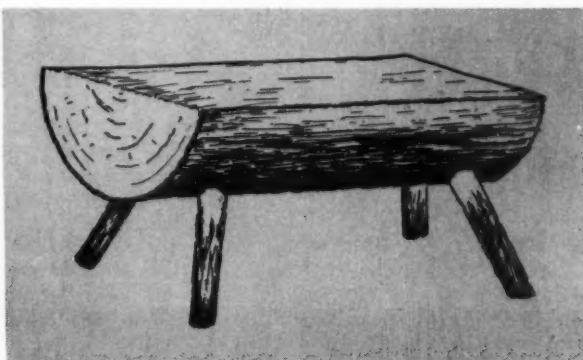
Another and sturdier stool is shown upper right. This type is a great favorite with outdoorsmen because it stands a lot of hard usage and will support heavy weights. Saw a 14-inch length from a block that is 12 inches in diameter. Split this in half, smooth the faces, and you have tops for two stools.

Next drill four one and a quarter-inch holes in the underside of the top, slanting them toward the center so the legs will sprawl outward at the bottom. The holes should be placed near the corners of the top and drilled about two thirds of the way through. Make the legs from short lengths of

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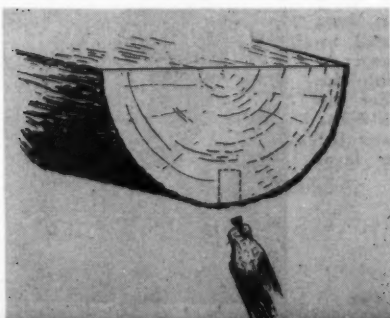


Practical, rustic camp table which can be quickly constructed of split poles and logs

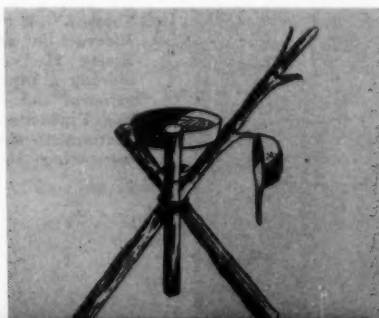


You'll get plenty of use out of stool or bench made from half log and four saplings

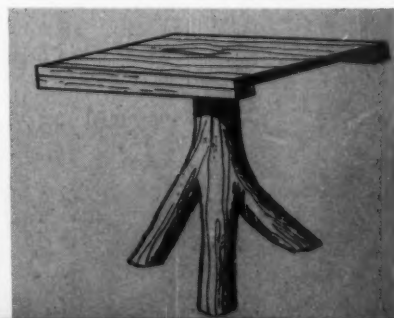
Here's the best way to use a blind wedge in assembling your furniture



A durable stand, designed to hold wash basin, soap dish and towel



Simplest type of stool, made from wide board and three-pronged branch



Wringing Out a Spruce Bog

By JOHN V. HOENE

Controlled drainage may save millions of high quality Christmas trees now being drowned in inaccessible spruce bogs. A Minnesota forester reports good preliminary results from such an experiment

MANAGING a black spruce bog by drainage may seem fantastic, but a new experiment may prove it feasible. Up in northern Minnesota there is a very interesting water control experiment, only 40 miles north of Duluth. Here is a typical black spruce bog, one of the many covering thousands of acres in Minnesota. The tract, which is an auxiliary forest, is owned by Halvorson Trees, Inc., of Duluth, and is used to grow high grade Christmas trees.

Unfortunately, high water levels of

the past few years have drowned out many of the trees in portions of the bog, so that only willow brush remains in those areas. It occurred to Dana Worrall, forester for Halvorson Trees that this bog and its trees could be managed by controlling the water level.

Forester Worrall, formerly a state forestry employee, has always been a crusader for limiting the number of beaver in the vast swamps of the state. He has seen thousands of acres not only damaged but destroyed when

flooded by beaver, causing a complete loss of black spruce acreage for many years thereafter. At the same time, these bogs lose much of their capacity to retain water during the spring and during dry periods.

By personal observation from the Halvorson plane, extensive use of aerial photos and hiking over the area, Forester Worrall has been able to map the entire bog and find the outlets. He knew that most peat bogs are not flat but have a natural meandering flow of water which may be



After natural drains are found, cord is stretched to get alignment and holes made for dynamite

At left, a ditch being "blown." At right, Dana Worrall is assisted by Bruce Halvorson in driving a pipe into the mineral soil under the bog. Pipes are utilized as permanent stations for measuring water level



so slow that it is perceptible only in the springtime. He reasoned that tapping the bog at the points where the natural flow had been obstructed would be not only less expensive but more effective and permanent.

The bog, which is higher in the center because of moss and other plant growth, has a general slope in all directions toward eight main outlets. It is enclosed by a mound of gravel and earth which was laid down by the glaciers years ago, and water from the main outlets flows into nearby lakes. During the spring of 1950,

speed up their rate of growth to four or five inches annually, making ideal Christmas trees.

At the risk of good-natured teasing from his friends, Forester Worrall admits he will be growing some pulpwood, too, for the spruce should thrive particularly well near the ditches and outlets where drainage is at its best. There black spruce will often add a foot to its height each year, eventually making good pulpwood. Worrall states that in the process of growing Christmas trees in the center of the bog, he expects to have

drainage. As a result, many stands of spruce and cedar were stagnated because of water held back by the peat piled along one side of the ditch.

Results during the first year, 1950, were encouraging, with an average drop in the water level of seven inches during the summer. It is likely that if the bog's level could be lowered seven inches during one of our wettest years, it could be lowered even more in ordinary summers. Then, too, if the eight existing ditches were deepened and expanded, even more water could be drained but,



Carrying pack laden with dynamite, Forester Worrall trudges through bog where water has killed all spruce



Here's what a ditch looks like after being "blown." A potato fork or cultivator is used to remove the debris

most of northern Minnesota had excessive water and several rivers were flooded. Forester Worrall decided the time was ripe to find the natural overflow of the bog.

After a great deal of hiking through water and snow, he located these main outlets. His theory was that ditching by dynamite at the eight main outlets would provide necessary drainage. The accompanying photographs show some of the steps taken to develop the project. In all, the undertaking required the blasting of nearly a half mile of ditches, for which more than a ton of special ditching dynamite was used.

For table size Christmas trees, the best annual growth for black spruce is about four inches a year. This will give them the desired uniform shape and closely knit branches. Many of these trees are more than 100 years old, yet less than 30 feet tall. By draining excess water from the bogs, these black spruce, now stunted and limited to a growth of one or two inches a year, should undoubtedly

pulpwood on the outer edge, but he is not too worried about this in view of the steady and constant demand for black spruce pulpwood.

It is the intention to remove just the right amount of water so that the trees will be able to grow only at the desired rate each year, thus creating a managed bog. If the eight recently ditched outlets drain the bog too much, control dams will be constructed to maintain the water at the proper level.

To keep a record of the exact amount of drop in water level, 12 permanent measuring stations were established by means of anchoring pipes in mineral soil below the peat.

This drainage differs from that which years ago was extended to many townships for agricultural purposes. The purpose of former drainage efforts was to remove all the water, but it was handled by engineers who knew little of nature's secrets. The ditches followed section lines, little attempt being made to trace the flow or follow the natural

since excessive drainage could be injurious, most foresters agreed that work should be somewhat limited the first year. Results this year will show how far the experiment should be carried, and permanent growth study plots will be established to follow closely the rate of growth in comparison to the rise and fall in the water table.

Foresters in Minnesota and elsewhere will do well to watch this experiment closely, since it might set a pattern for treatment of the thousands of acres now covered with commercially sought black spruce. Perhaps through such control, growth could be greatly increased, but if this kind of management were undertaken it would have to be coordinated with strict control of the beaver which could well nullify all the benefits. Each bog would offer an individual problem, but in working out such a program, we can get some good ideas from the Scandinavian countries where managed bogs have long been an established reality.

By HARRY BOTSFORD

The robust appetite of the outdoor enthusiast requires plenty of nourishing, easy-to-fix food. Here's a guide for gourmets guaranteed to please

Soups and Chowders for Camp and Cabin

A GUY who has a pressing date with a bass, or an engagement with a furtive deer or an elusive grouse, can't afford to waste much time bending over a hot stove. But, the guy does work up a terrific and devastating appetite. Somehow he must reconcile these two factors. If he turns to a robust and filling soup or chowder, the problem is solved—the job of cooking is simple and fairly fast—and his hunger is appeased in a most satisfactory manner.

When you plan your next expedition for game or fish, take along some simple soup ingredients, most of which you probably already have on your shopping list.

Take baked bean soup, for example. It's not only extremely good, but it's easy to brew. Here is what is required:

- 2 cups baked beans (canned)
- 2 minced onions
- 1 qt. cold water
- 1 tablespoon celery salt
- 2 tablespoons butter
- 2 tablespoons flour
- 2 cups canned tomatoes



Simmer the beans and onions in the water for 30 minutes. Heat the tomatoes and rub them through a strainer into the bean mixture. Mix butter and flour together and gradually add enough boiling water to make it thin—add it to the soup, let the mixture bubble for ten minutes, add salt and pepper to taste and serve very hot. Enough for eight—and darned good, too. If you happen to have a cup of cooked elbow macaroni, add to the soup ten minutes before serving. Some hot biscuits or sea biscuits, a pot of coffee, cheese and fruit for dessert—and there you are—took about 40 minutes, didn't it?

If you've never tasted it, cream of rabbit soup is something that calls for cheers. Start out by cleaning your rabbit thoroughly and letting it simmer the night before—add an onion to the water, some peppercorns and some dried celery leaves.

You will need:

- 2 tablespoons butter
- 2 tablespoons minced onion
- $\frac{1}{2}$ teaspoon curry powder
- 2 tablespoons flour
- $\frac{1}{2}$ cup thinned evaporated milk
- 3 cups rabbit broth
- 1 cup diced rabbit meat
- 2 tablespoons minced dandelion leaves
- 1 teaspoon celery salt
- 1 cup cooked rice

Sauté the onions in butter for five minutes, stir in flour, curry powder, milk and stock—add the remaining ingredients and bring to a slow boil. Enough for six moderately hungry people, and every spoon of it calls

for an encore. A great lunch—some cornbread heated in the stove oven, coffee—and you are ready to wrestle with the biggest bass or musky that ever lived. And you can stand a lot of cross-country trailing after a deer or grouse.

Tomato soup with dumplings is a treat any time, one of the easiest things in the world to prepare. Just before you leave in the morning, you can put most of your ingredients on the stove, close the damper and, about noon when you return, the soup is done. You will need only simple things:

- 1 can tomatoes
- 1½ quarts water
- 2 large minced onions
- 3 tablespoons butter
- ¼ teaspoon salt
- Pepper to taste

Let the ingredients simmer in a covered pot while you go on your merry way. On your return lift the lid of the kettle and sample this ambrosial brew. All you need to do is stoke up the stove and prepare the dumplings, a simple task. For the dumplings, you will require:

- 2 cups flour
- 4 teaspoons baking powder
- ½ teaspoon salt
- 1 cup milk (evaporated, thinned)

Sift flour and baking powder and salt, add milk and beat thoroughly—drop by the spoonful on top of your soup, clamp on the lid and don't lift it for 15 minutes. This should make a meal for six—serve the dumplings immediately and they will be light and delectable.

Out in the Adirondacks our camp cook prepared a carrot and potato soup for our lunch one day which was so good that I prevailed upon him to tell me how he did it. He used:

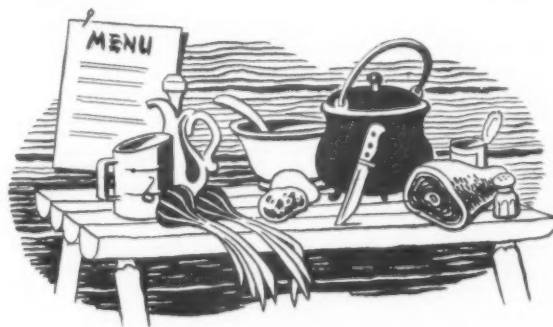
- 3 medium potatoes
- 4 carrots
- 3 medium onions
- 1½ tablespoons bacon fat
- 2 tablespoons flour
- 1½ cups milk (evaporated, thinned)
- 1 tablespoon butter
- 2 cups water
- Salt and pepper

The vegetables were sliced paper thin, cooked in the bacon fat for five minutes over low heat. He then added a half cup of water and cooked the vegetables, covered until they were a veritable mush. He then sifted in the flour, stirring vigorously until thoroughly blended, poured in the remaining water and milk. This was simmered for about ten minutes, pressed through a sieve and returned to the fire. When it came to a boil, the butter and seasonings were added—and it was served immediately. With it he gave us hot baking powder

biscuits, a salad made from fresh water cress from the spring and a barrel of coffee. All told, the job was done in a little over 40 minutes. There was enough for six, by the way.

How about a lima bean chowder? A few cans belong in your list of eatments for they are always palatable. This is a robust chowder that can be made with a slice of ham, or with breast of grouse—and it's a supper dish that is out of this world, especially if you've been tramping through the woods on a cold rainy day.

- 1 slice of ham, or a breast of grouse
- 1 tablespoon butter



- 2 minced onions
- 4 diced potatoes
- 3 diced carrots
- 2 cups canned lima beans
- 1 teaspoon salt
- ½ teaspoon pepper
- 2 cups water
- 1 tablespoon flour

Cut the meat into bite sizes and fry in the butter until they are brown, then add the onions. When they are nicely browned, add the other ingredients, with exception of the salt. Cover and simmer until tender, then thicken with flour. If you use ham, you will need less salt.

Dish of stewed tomatoes, some bread, coffee—what more do you want? A little dessert? Cheese or fruit—or both. By the time you are filled, you start to get drowsy—fatigue finally claims you and you sleep the sleep of the just, with an untroubled conscience and a full stomach.

If it's squirrel season, and you have had some good luck, clean some of your booty, cut into pieces and drop into a gallon of cold water—add some peppercorns, salt and a pinch of sage. Cover the pot, let it come to a slow boil and simmer until the meat is very tender and may be removed from the bones easily. Add vegetables: three diced potatoes, part

of a can of tomatoes, some sliced onion. When the vegetables are tender, thicken the soup by adding one-eighth pound of butter that has been rubbed with flour until it is a smooth paste. Add a little at a time, stir briskly. To really enjoy squirrel soup, it should be poured over hot biscuits—then eaten without restraint. To say this is good is to be very conservative.

You'll probably have a ham shank toward the end of your vacation—use it advantageously, let it perform its ultimate function in life. Soak two pounds of dried split peas overnight. Place the ham bone—let there be some meat on it, please!—in the pot

with two quarts of cold water and the peas. Let come to a boil and add two sliced onions and two sliced carrots, some peppercorns.

Simmer for three hours or more, then rub the vegetables through a sieve, return to the soup and add two tablespoons of flour gradually, stirring like mad. Season to taste, adding a dash or so of tabasco or Worcestershire sauce—serve generous dishes of it piping hot. This is the sort of victuals my dad used to say “stick to the ribs”—and just to make sure that it does, there's nothing that can equal plenty of johnnycake to serve with it.

A fish chowder, properly made, served piping hot, is one of the best camp or cabin dishes, and it's most appropriate if you have tired of fried fish.

To make it, take a four-pound bass or pike, cut off the head and tail, skin—then bone it. Place the residue in a separate pan, cover with water, season, and boil for 15 minutes. While you are doing this, try out a half cup of diced salt pork in the skillet and add to it two medium onions, sliced thin. When onions attain color, place them in the pot with

(Turn to page 43)

KNOWING YOUR TREES

MONTEREY CYPRESS

Cupressus macrocarpa, Hartweg

By WARREN D. BRUSH

MONTEREY cypress, in its natural habitat, occupies the smallest area of any American conifer. South of the Bay of Monterey on the coast of California, it occurs in a narrow strip just two miles long—from Cypress Point to the south shores of Carmel Bay and on Point Lobos. Scattered gnarled and twisted trees, constantly buffeted by the wind, cling to rocky sea cliffs along the shore. Elsewhere they form very dense stands, and on the east of this limited area they mingle with Monterey pine and occasionally Gowen cypress.

In youth, the tree has a form entirely different from its mature shape. The trunk is sharply conical when the tree is young—and the crown rigidly straight. Slender branches trend upward in a wide, sharp-pointed pyramid. Such trees may be from forty to fifty feet high and eighteen to twenty inches in diameter. Later, the height growth—rarely more than sixty feet—ceases, and if the trees have room the branches develop into long, massive limbs, eventually reaching up to the height of the leader and spreading out into a very wide, flat-topped or umbrella-shaped crown.

The crown of crowded old trees is similar, but not so broad. Exposed to the sea winds, some trunks and their enormously developed limbs sprawl on the ground and are grotesquely bent and gnarled.

The stout twigs are at first completely covered with the scale-like, closely overlapping leaves. These fall at the

end of three or four years and expose the thin, light or dark reddish brown bark, which separates into small, papery scales. The minute, dark yellow-green leaves are closely attached to the branchlets, their sharp points sometimes standing out slightly from the twigs. In late February or early March, the tiny yellow flowers appear, the male and female at the ends of different twigs on the same tree.

Clustered on short, stout stems, the oblong cones, one to one and a half inches long, and two-thirds of an inch in diameter, are composed of four or six pairs of scales with broadly ovate, thickened projections. The scales of the upper and lower pairs are sterile and smaller than the others. The cones mature by August of the second season, when they are ashy brown.

They open slowly, shedding their russet-brown seeds during autumn, after which they remain on the tree for several or many seasons. From eighteen to twenty angled seeds, about one-sixteenth of an inch long, are borne under each fertile cone scale. They are rather heavy and usually lodge near the parent tree.

The bark of mature trunks is about seven-eighths of an inch thick. Outwardly, it is weathered to an ashy white, but breaking it exposes a deep red-brown beneath, the same color as that of the protected bark of limbs and young trees. Old bark is firm and narrowly seamed



Exposed to sea winds, Monterey Cypress often takes on a grotesque appearance with its gnarled, massive limbs sprawling along the ground. In height, it seldom exceeds sixty feet

Ralph D. Cornell



Frank A. Schilling
Ashy brown oblong cones, clustered on short, stout stems, mature by August



Devereux Butcher
The minute, dark yellow-green leaves are closely attached to the branchlets, their sharp points sometimes standing out slightly from the twigs

with a network of narrow, vertical ridges and smaller diagonal ones.

The fine-grained wood is heavy, hard, strong and very durable. It is clear yellow-brown with streaks of rose-red and dull yellow, and it has a faint, aromatic, "cedar-like" odor.

The poor timber form of the tree, along with its very limited available supply, prevent the wood from becoming commercially important. It is important, however, as one of the rare forest trees capable of forming a cover on the wind-swept coast, even down to the water's edge. The few trees on the shore of Monterey Bay appear to be the last remnant of a species which was once more extensive.

Apparently its former range was principally on land now swallowed up by the encroaching ocean. There is no danger of its complete extermination, however, because it is extensively cultivated. It is widely planted in this and other countries and, when grown under favorable conditions, it is a graceful and symmetrical tree. Used extensively in California for windbreaks, its vigorous, rather rapid growth in early life makes it exceedingly useful for this purpose. The trees also serve as hedges and for ornamental purposes, and are very valuable for protective planting in dry situations. Occasionally grown in the southeastern states, Monterey cypress has been much planted in western and southern Europe, temperate South America, and in Australia and New Zealand. The seeds, which are produced in large quantities every year, have a high rate of germination—and the seedlings grow very rapidly. It will also grow from cuttings.

While Monterey cypress makes rather rapid growth in early life, it grows slowly after its usual height is reached. Trees from fourteen to nineteen inches in diameter are from sixty to eighty-five years old. Although little is known of its longevity, some of the larger trees in its native habitat are believed to be more than 200 years old. The bark is too thin to protect the tree from severe fires, but it seems to be quite free from any serious fungus diseases or insect attacks.



Devereux Butcher
Weathered to an ashy white on the surface, the bark is red-brown beneath and less than an inch thick. Old bark is narrowly seamed



Monterey Cypress occupies the smallest area of any American conifer, occurring south of the Bay of Monterey in California

Watts Reports:

SMALL LANDOWNER KEY TO FOREST FUTURE



The future of forestry in the United States is dependent in large measure upon several million small owners who have most of the privately-owned commercial forest land, states Lyle F. Watts, chief of the U. S. Forest Service in his annual report for 1950. He contends that these owners of small woodlands need more assistance from state and federal governments and private industry to assure that future.

Pointing out that three fourths of the nation's forest land is privately owned, Mr. Watts warns that this country must look to private landowners for the bulk of its production. The Chief Forester cites notable gains made by private forestry in the past ten years, but he believes that even more improvement is needed to stop depletion of forest resources.

"In spite of all the gains that have been made in forestry over the years," he declares, "we have yet to stop the downward trend of our forest resources." Because sawtimber is being taken from the forests faster than it is being replaced by growth, the quality of timber growth is deteriorating over large areas, he reports, adding that on the average growth is "only about half of what the land could and should produce."

In emphasizing multiple uses of forest land, he points out that forests support major industries and are a basic source of employment for millions of people. They also furnish raw materials for thousands of commodities, help safeguard vital water supplies, reduce disastrous floods and provide valuable recreational areas.

"World War II proved that wood is just as essential to victory as steel, aluminum or coal," Mr. Watts declares. "More and more owners are now managing their forests for continuous crops of timber. During recent years, there has been a growing realization that ownership of land carries with it certain responsibilities as well as privileges."

Calling it "entirely feasible" to plant one billion trees each year on a million acres, Mr. Watts urges public and private foresters to double their tree planting efforts. His report states that 75 million acres of commercial forest land in this country now are poorly stocked or deforested, and to reforest them at the present rate of planting would require at least 120 years.

Even though 41 states now have nurseries operating under the cooperative planting program authorized by the Clarke-McNary Act, the Chief Forester believes it still is moving ahead too slowly. He said the 300 million trees produced by these nurseries in 1950 form an upward trend that should be followed.

Private industry is commended in the report for taking an active part in the reforestation program. An example is the "tree farm" program started in 1942 under sponsorship of American Forest Products Industries, Inc. In 28 states, participants who own about six percent of the country's private commercial forest land, agree to follow specified forestry practices under the project. Pulp and paper companies of Wisconsin conduct a "Trees for Tomorrow" program to stimulate tree planting, and in the South pulp and paper producers have distributed thousands of free trees.

A need to extend technical forestry assistance to many more landowners, particularly to those who own small woodlands, also is seen by Mr. Watts. He says the earliest efforts to encourage better forest practices were aimed primarily at large landowners and large sawmill companies. He points out, however, that there are only about 3600 large owners (with 5000 acres or more) in the U. S. while there are four and one fourth million owners with holdings of less than 100 acres, making the average ownership about 62 acres.

Under the Norris-Doxey Act, some

220 technically trained foresters last year gave on-the-ground assistance to private owners of woodlands in nearly 1000 counties. Since the program started in 1940, farm foresters have assisted more than 100,000 individuals who own nearly 11 million acres of woodland.

Nevertheless, the report states, there still are insufficient farm foresters to meet the demand for technical aid. At the end of fiscal year 1950 more than 4500 requests for assistance remained unfilled.

Mr. Watts pays tribute to the nationwide cooperative forest fire prevention campaign being carried on by state and federal foresters under sponsorship of the Advertising Council, Inc. During 1950, business concerns, advertisers, broadcasters, newspapers and other cooperators contributed advertising space and radio time worth \$4,000,000 at commercial rates.

The report also reveals that 43 states and Hawaii participated last year in the cooperative fire control program under the Clarke-McNary Act. The forest area under organized fire protection has doubled since 1925. Of the 426 million acres of state and private forest and watershed land in need of protection from fire approximately 83 percent is now under some degree of organized protection. These efforts are gaining excellent results. The number of man-caused fires has decreased during the past five years in the face of steadily increasing human use of the forests.

Despite these gains, Mr. Watts declares there is urgent need to extend organized fire protection to 70 million acres of forest and watershed not now receiving protection, approximately two thirds of which is in the Gulf and southeastern states.

Mr. Watts describes insects and disease as often being more serious than fire in the destruction of timber. Two important insect control projects

(Turn to page 45)

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New Roads to Timber Plenty

(From page 9)

would freeze out many operators, especially smaller ones who are not equipped to take on a heavy road construction job. The Forest Service has its road engineers, as well as some construction foremen and equipment already available. Road building contractors are prepared to handle the rest of the construction.

The Forest Service and its contractors are willing to accept the responsibility to construct roads of the required standards for service to all users. Furthermore, the roads can be located with a view to future logging operations and to regulation of timber cut to sustained-yield objectives set up for the working circle.

A federally-constructed road also makes it possible to negotiate several timber sales in the area and thus give more logging concerns a chance to do business. Competitive bids for the timber can be obtained; and there are many instances where substantially increased timber stumpage returns have resulted from competitive conditions introduced by an access road.

it. Competition that might develop for the timber if the public built the access road would be kept down.

Need for more access roads is almost 95 percent in National Forests west of the Great Plains. In eastern National Forests timber cut in most working circles now equals the allowable rate of cut at the present inadequate level of stocking. The big need here is to build up the growing stock. Much of the land in these National Forests of the Lake States, the East, and the South had been cut over and burned over before it came into National Forest status. Eventually these forests can sustain a substantially greater cut.

With an immediate 50 percent increase in output of National Forest timber possible through a road expansion program; with the sound reasoning of government foresters that road building costs can be liquidated almost on a "pay-as-we-build" plan, it is time that Congress put the okay on these expansions.

Fundamentally, it is too good a



This timber stand in Douglas County, Oregon is overripe and should be cut

On the other hand, if construction of the road were left to the operators, the Forest Service feels that only big companies, in most cases, would be in a position to purchase the timber. The purchaser would in effect have a monopoly control over all public timber tributary to his road. Other timber in the area could not be sold until he was ready to purchase

business proposition to be ignored. The roads will help solve a lot of other problems of federal forest land administration, such as insect and disease calamities, loss of decadent wood fiber, and on down the line.

But most important, the roads will make a lot of timber available now, when we need it to help face this country's greatest hour of need.



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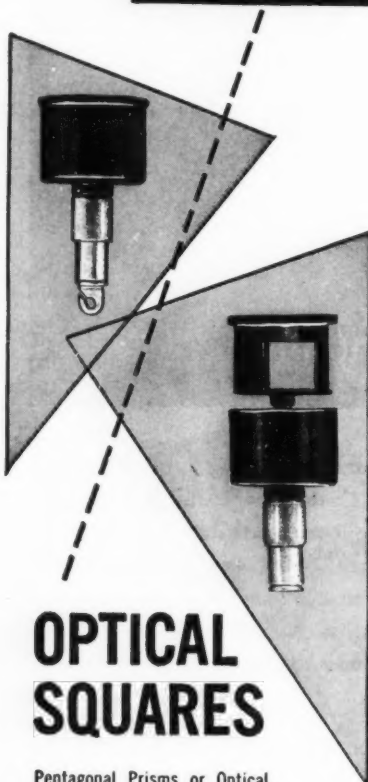
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Davy and the Lamb

(From page 11)

peaks lightened. Some were flying south, empty of beak and claw. Others were flying north, each of these appearing to have a handlebar mustache growing from his beak. Something came over the Mountain Lamb and started her south, after the eagles that were flying empty.

It was Davy that the eagles had found, and it was Davy's hair they were biting out by the roots as powerful framing for their nests. Davy was cotched, as the mountain men would call it. Last night he had come to a canyon turn that gave him a view of a far peak that loomed against the moon and on which the Mountain Lamb stood. She looked like lilacs to him.

Davy had high-stepped on up the mountainside, swelling his chest and rearing his head back every so often to let out a whoop, until he was a mile high and more. In the middle of one such scream he stepped right off a ledge before he knew it and into a slide just made by the spring melt. Crockett fell a mile before he struck timber, which made the thunder smash heard by the Mountain Lamb. He knocked over ten trees like a rack of bowling pins and came to a stop with his head caught in the cleft of a pine that he had split straight through the heart with his head-first slide.

There he was trapped. When sense came back to him, Davy found himself on his back, head clamped in the rift of the pine he had split. He peered up at daybreak in the sky, looking between the halves of the tree, one half leaning east, the other west.

Down from the dawn and through the green of the forest the eagles were swooping. Lighting at the back of his trapped head, they were, and fairly mining his hair for their plagued nest framing. Davy Crockett began to know fear for the first time. With every strand of hair he could feel his strength going.

He could not get his hands through or around the split pine trunk to stave off the eagles. And the more he tried to pry himself loose the tighter the tree made its grip on his head.

At last Davy just lay there, prayerful and resigned, no more lifting a finger to fight, and no peep out of him. He looked dead to the Mountain Lamb as she came stomping down the canyon, batting eagles out

(Turn to page 32)

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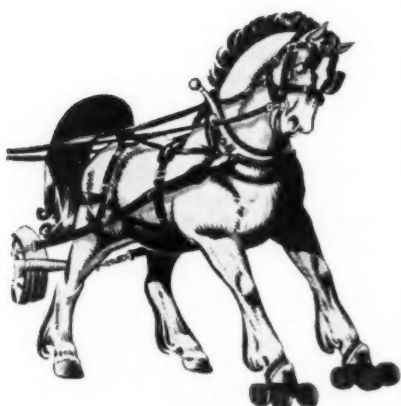
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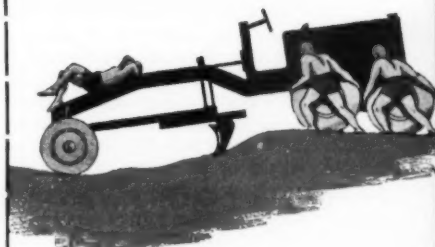
A motor grader without power on the front wheels is like a horse with roller skates on his front feet.

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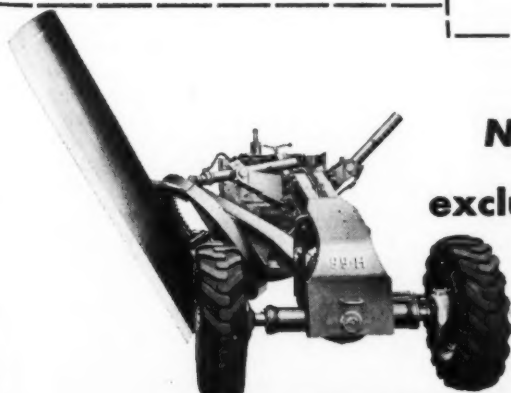


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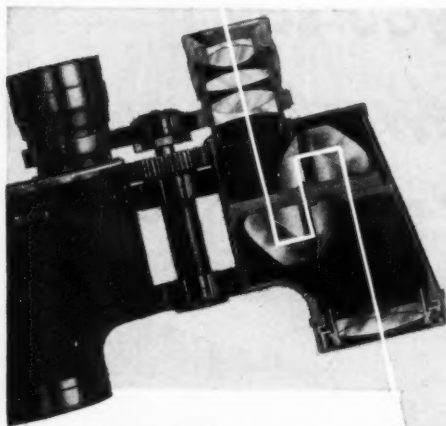


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Davy and the Lamb

(From page 30)

of her way at every stride. The sun was looking red through the green boughs when she reached Davy Crockett. She peered down at his whitened and bloodied features, took in his trouble, smelled his breath, turned to kick the tail feathers off a venturesome rooster eagle, and then began to jump.

Davy Crockett heard the Mountain Lamb crack her heels on her first hop, and he blinked his eyes open to see her through a haze. One minute he reckoned he was no more of this earth but was up among angels of an Indian character—powerful big, red angels in buckskin and with black wings. Next minute his wits came up to tell him this was a mighty maid of Indian extraction, and these were no wings but a most amazing head of black and shining hair that spread afar.

The Mountain Lamb kept jumping. It was her way of warming up for any big job she had to tackle. And, for true, what a jumper she was! Davy Crockett forgot his own predicament as he watched the Mountain Lamb warm up by jumping over her own shadow. It was a peculiar and marvelous sight. The Lamb would skip and hop north to south, and this so sudden and fast that her shadow would be left in the lurch. A split second more, and just as her shadow was at her heels again, the mountain maid would jump like a red and black streak of lightning, clean over her long shadow, while it fairly writhed and panted to catch up with her.

The shadow of the Mountain Lamb never did rightly catch her again until she was warmed up and fixed to go to work. This was after a last jump that put her high up in the cleft of the split pine, away up above Davy Crockett's head. There in the split she propped herself, bare feet hooked in the big slivers, legs braced, arms and hands straining to widen the rift in the pine trunk until Davy might pull his eagle-plucked head free from the dread trap it was in.

Of course it was done. And done proper, else Davy Crockett would not have lived to enjoy other wonderful adventures in the West and to return to Tennessee to run for Congress.

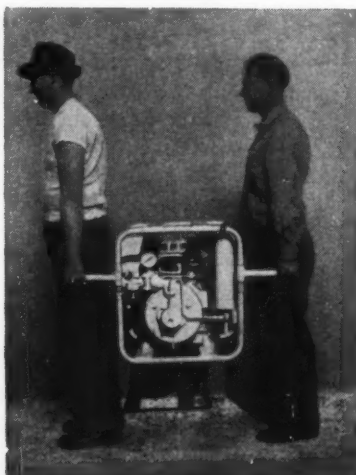
The doing was tough on the Mountain Lamb. She toiled and strained her way down the narrowing cleft by inches. She lost flesh—and she shed quills. This last fact was the thing

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that chilled the blood of Davy Crockett even more than the fear of death had done. Up there in the tree the Lamb labored on, bruising elbows, barking knees, slivering hands and feet, gritting teeth, inching downward—with every inch the black quills fell.

Davy Crockett knew what the black quills were even before the Mountain Lamb had set him free to slide and roll out on the grass. What he knew chilled him to the heart and snowed on his soul. It was no more springtime for him as he sat up in the morning sunshine, then stood to watch the Mountain Lamb come down from the rifted pine.

She set herself in the split pine and gave a spring like a shot from a cannon. The halves of the pine came together in a thunderclap. There was more thunder as the Mountain Lamb hit the ground. As she turned to face Davy Crockett, her hair close now, black and shining in the sun, spreading far, down and around, high, wide and handsome, the most he felt bound to do was to shake the hand of the Mountain Lamb, thank her kindly, and vow to do as well for her some day should she need the help and he was handy. . . .

"Why, what was the trouble with her hair?" asked one of the loggers, as Uncle Ben Cotter quit his telling and sucked on his pipe. "What bothered him?"

"Porcupine woman," said Uncle Ben. "You don't need to take my word on Davy Crockett for that. There's Indian history for it. The Mountain Lamb, her hair was quills."

Rustic Furniture

(From page 19)

two-inch saplings, and shave the ends so they will enter the mortise holes in the stool top.

When assembling the stool, put a blind wedge in the top end of each leg. The wedge is simply a sliver of metal or hardwood driven part way into the tenon end of the leg. As the leg is driven into the mortise hole in the stool top, the wedge is forced deeply into the leg, spreading it to make the joint tight. Be careful to drive the wedge crosswise to the grain, or its pressure may split the leg.

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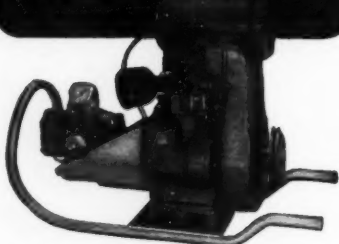
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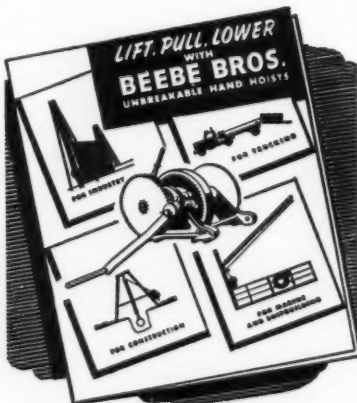
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od. However, it is always advisable to use good furniture glue if it is available.

You can make benches to hold four to six persons just as easily as you can make the stools. Simply use halves of split logs from four to six feet long instead of the 14-inch lengths. But, in making the benches, locate the leg holes about ten or 12 inches back from the ends of the slab tops.

Stools and benches should stand 18 inches above the floor. This makes them suitable for use with the standard 30-inch high table.

A good size rustic table, suitable for a party of four, should measure about 32 by 54 inches. One can be quickly constructed from split log halves and poles.

Build the top first. Select three uniform logs about five inches in diameter and four and one half feet long. Split them and nail the six pieces to a pair of stout cross bars, which should be of four-inch wood. The log halves must be carefully fitted, trimming off the round undersides where they rest on the cross bars until the top faces lie smooth and even. If you have no nails, drill small holes through the logs and fasten them together with hardwood pegs. It is best to use a light wood like birch for the tabletop.

Legs and brace rungs will require a little calculating. They will have to be cut the right length to make the table 30 inches high. Taper off the top ends of the legs and fit them into holes drilled in the cross bars which hold the top. Use blind wedges again to insure a tight fit. Two cross rungs give added strength to the legs.

One of these tables can be used to form a comfortable breakfast set if accompanied by two of the benches described previously.

A rustic stand designed to hold the wash basin, soap dish and towel can be made of three poles arranged in the form of a tripod and securely tied. Two of the poles are 30-inch lengths and the third is 48 inches long, with a fork at one end. The forked end of the longer pole provides a place to hang the towel. The poles are tied together at a point about 12 inches from the tops of the shorter poles. The inside faces of all three are notched out to hold the basin and soap dish. A tin lid wired in place will serve as a soap dish.

All these articles of furniture can be made in the space of a few hours. They will add greatly to the comfort and convenience of your vacation cabin.

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THEY
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PREVENT

FOREST FIRES

The Forests of Bolivia

(From page 15)

rainfall, precipitous topography, and lack of roads have precluded extensive logging.

Unfortunately for the Yungas and Bolivia, a shifting agriculture of great destructive potential and low productivity is practiced. Land well adapted to tree crops such as coffee, citrus fruits and bananas is devoted instead to growth and care of coca, a shrub bearing cocaine-drugged leaves which are chewed by many Andean Indians. In order to grow it, an area of woodland must be cleared by felling and burning, and the clearing terraced. The coca crop lasts 12 to 15 years. At the end of this period the land is allowed to revert to brush and, ultimately, trees.

Heretofore, pressure of population in the Yungas has been low enough to allow long rotations. Thus erosion is not yet common; but it does exist and is a reminder of what has happened on so terrible a scale in other Latin American countries.

The most valuable and accessible forest land in Bolivia is a belt of varying width lying along the base of the Andes. From Yacuiba on the Argentine border north to Santa Cruz, this forest abounds in *quebracho*, a tree of heavy, durable tannin-rich wood which supports an important industry in Argentina. At Santa Cruz, the forest turns sharply to the northwest and parallels the Andes to the Peruvian border. High rainfall, hot climate, and deep, alluvial soils combine to produce trees which, for volume and quality, are comparable to the best of other tropical lands.

Monarch of the hundreds and hundreds of species found here is mahogany. This tree raises a crown of dark green foliage atop a clear, slightly tapered bole—far above the canopy of the jungle. Words of praise cannot do justice to the wonders of this incomparable tree—the durability of its wood, the inexhaustible beauty of its grain, and the imposing majesty of its bole and crown.

In the central part of the northeastern lowland there is a very large area of pampa devoted to open-range grazing. Tree growth is confined to broad belts—along the rivers—which converge at about the 13th parallel and so continue northward. These extreme northern and northeastern sections of Bolivia are wild, sparsely inhabited and almost unexplored.

The largely primeval condition of

(Turn to page 37)



Allis-Chalmers Model D, owned jointly by the Oregon Dept. of Forestry and the Coos County Forest Protective Assn., maintaining access road to fire lookout tower.

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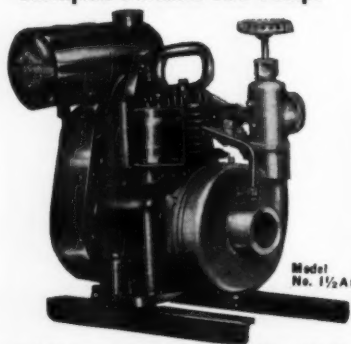
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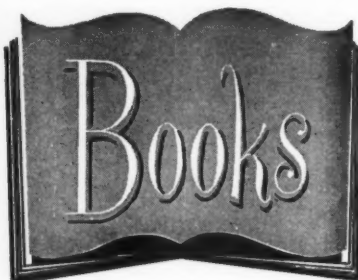
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Tree Trails and Hobbies, by Ruth Cooley Cater. Published by Doubleday & Company, Inc., New York City. 342 pages, illus. Price \$3.50.

True lovers of trees are ever anxious to find out more about the beauties and mysteries of the tree world, but most of them feel that such knowledge involves too much technical study and time. Mrs. Cater's book gives the characteristics, habitats, appearance, oddities and pertinent information for quick identification of more than two hundred species of native American trees. Half-tone illustrations heighten the text.

With a thorough reading of this book behind him, the tree lover will find new treasures on his next walk through the forest, the city park or along the highway.

Weeds, Guardians of the Soil, by Joseph A. Cocannouer. Published by The Devin-Adair Company, New York City. 179 pages, illus. Price \$2.75.

This is a book in which, probably for the first time, deserved laurels are handed weeds. The author does not advocate letting them go rampant, by any means, but maintains that with controlled use they can be a boon to any farmer or gardener. Because of their ability to restore eroded land and improve fertility—even grace the table and please the palate—he believes weeds should step up from the "to-be-condemned" class and be recognized for their true value.

Mr. Cocannouer, a conservation

and botany professor at the University of Oklahoma, has done much study on soil and weeds in their relation to agriculture.

Natural Landscapes of the United States, by J. Francis McBride. Published by the Chicago Natural History Museum, Chicago, Illinois. 47 pages, illus.

An interesting, impressionistic travelogue covering the more outstanding formations of plants, with emphasis on the forests, seen in different regions of the country. Profuse with illustrations, it can be obtained for 25c plus 5c postage.

Dragons in Amber, by Willy Ley. Published by The Viking Press, Inc., New York City. 320 pages, illus. Price \$3.75.

Those who read *The Lungfish*, *the Dodo*, and *the Unicorn* will want to wander through another exhibit of strange animals and interesting flora by the same author. Mr. Ley has recorded here the results of his intense curiosity about new developments in paleontology and zoology—in his usual engaging style.

There is a fascinating account of the origin of amber, how its once sticky fingers caught insects as well as footprints of large animals and preserved them for us as keys to past geological periods.

The book is amply illustrated with drawings by the author's wife.

Fifty Years of Forestry in the U.S.A., edited by Robert K. Winters. Published by the Society of American Foresters, Washington. D. C. 370 pages, illus. Price \$4.

The story of the growth of forestry is covered in this new publication issued by the Society of American Foresters. It was specially written to highlight developments in forest practices and techniques during the first half of the 20th Century.

Nineteen eminent foresters, all of whom observed and contributed to the forestry movement, produced the volume which was compiled under the guidance of the Society's Committee on History of Forestry, of which Robert K. Winters of Columbus, Ohio, is chairman.

Subjects such as forest protection, silviculture, forest management, forest utilization, range management, wildlife management, and forest influences are treated by nationally known specialists.

The Forests of Bolivia

(From page 35)

Bolivian forests is due in part to traditions of the people and in part to accidents of geography. At the time of the Spanish Conquest, the highlands were within the Incan Empire. For lack of iron tools with which to combat jungle growth, the Incas did not extend their rule into the lowlands, but kept to the hills and lived by farming, grazing and mining. This tradition was reinforced by Spaniards from the dry plateau of central Spain. Mountains, deserts, oceans, and myriads of hostile Indians did not stop these hard and brutal warriors—but the jungle did.

Grazing and dry farming have remained much as they were during the time of Inca rule and colonialism. Mining, however, has increased its tempo to a feverish pitch that has drawn the country headlong into the orbit of international trade. Furthermore, the tremendous mountain barrier of the eastern cordillera has never been breached. On the western side live 95 percent of the people; on the eastern lie 95 percent of the forests. Bolivians are not a forest-dwell-

ing, forest-using people, and they have small chance of becoming so as long as not a single road, railroad or river joins the forest to the people. Railroads were built principally to serve the mines, roads scarcely exist, and the navigable rivers run north to Brazil. The cinchona boom, the rubber boom, and now the mahogany boom are picturesque and indicative of activity to come; but they do not compete with the all-absorbing interest in tin.

However, isolation of the forested lowlands will not last indefinitely. Each decade will see them enter more into national and international life as world demands for forest products rise and as trade and transportation barriers are lowered.

But experience has taught that conservation and renewal are not inevitable. For this reason the United Nations, through the Technical Aid Mission, urged the Bolivian government during the summer of 1950 to establish and enforce a forest policy strong enough to insure the objectives of sustained yield.

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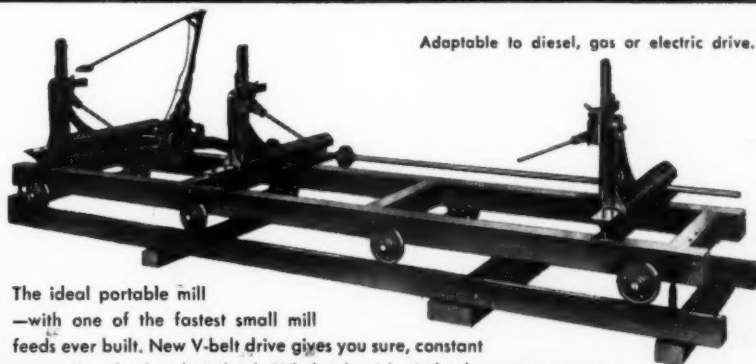
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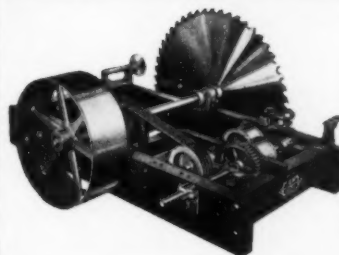
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Safety Hat—with a crown of resin impregnated Fiberglas that is impervious to moisture and acids, non-shattering and passes all dielectric tests. Available in almost any color or with pigment that glows in the dark. E. D. Bullard Company, San Francisco, California.

Wood Chisels—a complete set of eleven Swedish wood chisels in graduated sizes from 1/4 inch to 2 inches with unbreakable plastic handles. Blades are made in Sweden of finest heat treated and tempered steel, their beveled edges sharpened and honed. Gensco Tool Division of General Steel Warehouse Company, Inc., 1830 North Kostner Avenue, Chicago 39, Illinois.

Earth Auger—Model EA4 incorporates every improved operating feature and new, modern design. It assures contractors, telephone, telegraph, and power companies, railroads, highway departments and others with hole boring and pole setting requirements, of high speed continuous performance, maximum economy, and "long-life" reliability. Trackson Company, Milwaukee 1, Wisconsin.

Chain-Saw Sharpener—has a lightweight aluminum casing, forced-fan cooling and convenient operating switch. Equipped with a .1 hp. motor operated on 115 volts a.c. or d.c., it is balanced for handgrasp to permit continuous production with minimum operator fatigue. Dumore Company, Racine, Wisconsin.

Model HE Hough Payloader—a completely new Hough tractor shovel with one-half yard bucket capacity. It will dig, load trucks, grade, level, backfill, spread, transport and remove snow, as well as handle and rehandle bulk materials both inside and outside industrial plants. It has a full-reversing transmission with four forward and four faster reverse speeds coupled with forward-reverse control separate from the regular gear shift. Other Payloaders available with bucket capacities of 12 cubic feet, three-fourths yard, 1 1/4 and 1 1/2 yards. Frank G. Hough Company, 313 Sunnyside Ave., Libertyville, Ill.

Glass Rods—glass fiber rods of casting, spinning, and ocean models, with the quadrate shape and perfect taper, give quick, smooth action, balance, and greater accuracy. Wright & McGill, Box 7, Capitol Hill Station, Denver, Colorado.

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Woodomat—wood burning furnace that uses the principle of "destructive distillation." Designed to heat a house of about nine moderately sized rooms, it can be used to connect with ordinary warm-air flues, as a one-pipe furnace, or as a space heater. Pantex Manufacturing Corporation, Pawtucket, Rhode Island.

Portable Picnic Table—four by four feet, it assembles from a self-contained package and will seat up to six adults or eight children. Weighs 38 pounds and will fit easily into the trunk of an auto. When packed, top and bench boards form a hollow box to contain hardware and fittings. The Jordan Welding & Manufacturing Company, 9428 Cassius Avenue, S.E., Cleveland, Ohio.

The Root of the Trouble

(From page 10)

main in place until bacteria, always present in sewage, attack the tissues of the roots which gradually wash away. If there is much wood growth, bacteria just can't do the job quickly enough. Since roots in the upper part of the pipe often wash down first, they may be caught by those still intact and cause a second clogging. The best way to prevent recurrence of the trouble is to have a thorough mechanical cleaning job and then be persistent in the copper treatment.

To allay any fears which may have arisen, the copper sulphate process has been used repeatedly without the slightest evidence of any harm being done to trees or shrubs. Apparently the moment the root is killed it loses its power to absorb fluids into the healthy part of the plant. Action of the poison is entirely local and loss of only part of the root system does not seem to be harmful, even when roots have completely filled a pipe.

Then there is the question of possible harm to the city's sewage disposal process. In Ridgewood, New Jersey, the use of copper sulphate is a regular part of a program for keeping city sewers from being stopped. If you were a Ridgewood householder, a city employee would knock at your door every so often and ask permission to pour an ice cream carton full of copper sulphate crystals into your drain. Of course you would cooperate, and the residents in the vicinity of the disposal plant would bless you for it, because they have found that unpleasant odors have been noticeably reduced since the city uses the copper sulphate. The reason is that sewage flowing through clear pipes reaches the disposal plant more quickly, before putrefaction gases have had much time to form.

Will copper sulphate clear out other types of obstruction than roots? Occasionally fungus growth forms—masses of filmy threads which catch solids in their meshes and cause clogging. Since fungus is also a plant, the vitriol will kill it. But any stoppage other than roots and fungus will be untouched. Remember that copper sulphate is not like the commercial drain-opening chemicals you buy, it is simply a plant poison, so if there is grease in your pipe, copper sulphate will not work. If there is a mechanical obstruction, mechanical means must be used to open it.

The miracle of plant growth is the way the rootlet finds its way into the pipe at all and, having found a tiny aperture, proceeds to grow until it may fill a six-inch pipe completely. Roots usually enter at the joint, grow thin and wide at that point, then round out like a normal root inside the pipe.

At the University of Illinois an experiment was made with copper rings fitted into the pipe joints when they were laid. Dr. H. E. Babbitt, who directed the work, says that no roots ever passed through the copper clad joint.

Perhaps some clever ceramic engineer of the future will show manufacturers how to produce clay pipe which will actually repel plant growth wherever it might touch the pipe. If costs were reasonable, that would seem to be the final answer to the root problem.

In the meantime, keep handy a supply of blue vitriol crystals, and your water-greedy tree will not have to be turned prematurely into firewood.



THE LOWTHER TREE PLANTER PLANTS 10,000 SEEDLINGS PER DAY!

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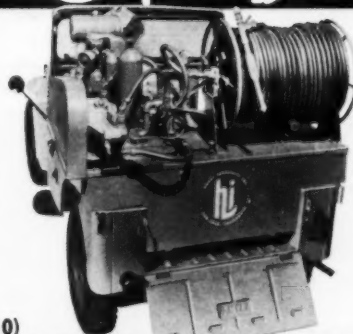
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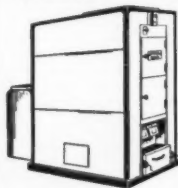
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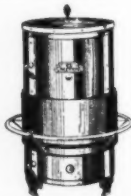
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Mixed named varieties 1½ to 2 ft.
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Photo: Rhododendrons, planted 3 years. Insert: Kalmia, on arrival.

RHODODENDRON	(100)
Maximum, white in July	\$35
RHODODENDRON	
Catawbiensis, rose in June	\$55
RHODODENDRON	
Carolina, pink in May	\$55
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5 each	as at left
20 plants	\$13.50
25 each	as at left
100 plants	\$47.50

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Tree Farming is Good Business—circular describing standards of good forestry tree farmers follow. S. C. State Commission of Forestry, Columbia, South Carolina.

Installation Manual, Armco Drainage Products—a 46-page manual intended to assist construction engineers, superintendents, and foremen in the proper methods of installing Armco drainage structures, culverts, sewers, or conduits. Armco Drainage & Metal Products, Inc., Middletown, Ohio.

Where to Buy—a directory of members of the West Coast Lumbermen's Association, designed to aid buyers of Douglasfir, West Coast hemlock, Sitka spruce, and Western redcedar. Detailed information on sawmills, remanufacturing plants, timber fabricators, a wood pipe and tank manufacturer and wood treating plants in the Douglasfir region of western Washington, Oregon and northern California. West Coast Lumbermen's Association, 1410 S. W. Morrison Street, Portland 5, Oregon.

Progress of Research in Forestry and Forest Products, and of Forest Education in India—a survey jointly published by the Indian Science Congress Association and the Council of Scientific & Industrial Research, at the 34th annual session of the Indian Science Congress held at Delhi, January 1947. Available from The American Forestry Association, 919 Seventeenth Street, N. W., Washington 6, D. C.

Central Ozarks Region of Missouri—one in a series of regional publications for public information on the recreational, scenic, scientific, and historic points of interest in Missouri. Missouri State Division of Resources and Development, Jefferson City, Missouri.

Domor—leaflet describing the big-production capacity of Domor elevating graders. Shows the grader in the roles of stripping, casting, loading and terracing. Also lists its specifications. Ulrich Products Corporation, Roanoke, Illinois.

The Soaking Method for the Preservative Treatment of Fence Posts—an illustrated booklet of 24 pages describing factors affecting treatment, preparation of posts for treatment and the soaking method. Oregon Forest Products Laboratory, Corvallis, Oregon.

Write for our new 1951 Short Guide to Trees, Shrubs, etc.

KELSEY NURSERY SERVICE
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Washington Lookout

(From page 4)

His conviction is reflected in the 1952 Budget which proposes \$6,000,000 for control of forest pests. This is \$300,000 more than the current year's appropriation. Included within the program to be financed with this larger sum is \$3,407,000 for white pine blister rust control. This is apportioned to make \$527,400 available to the Department of the Interior for lands under jurisdiction of the National Park Service, the Bureau of Land Management, and for the lands of the Indian tribes; \$1,804,500 to the Forest Service for work on National Forests; and \$1,075,100 to the Bureau of Entomology and Plant Quarantine for leadership and general coordination of the entire program.

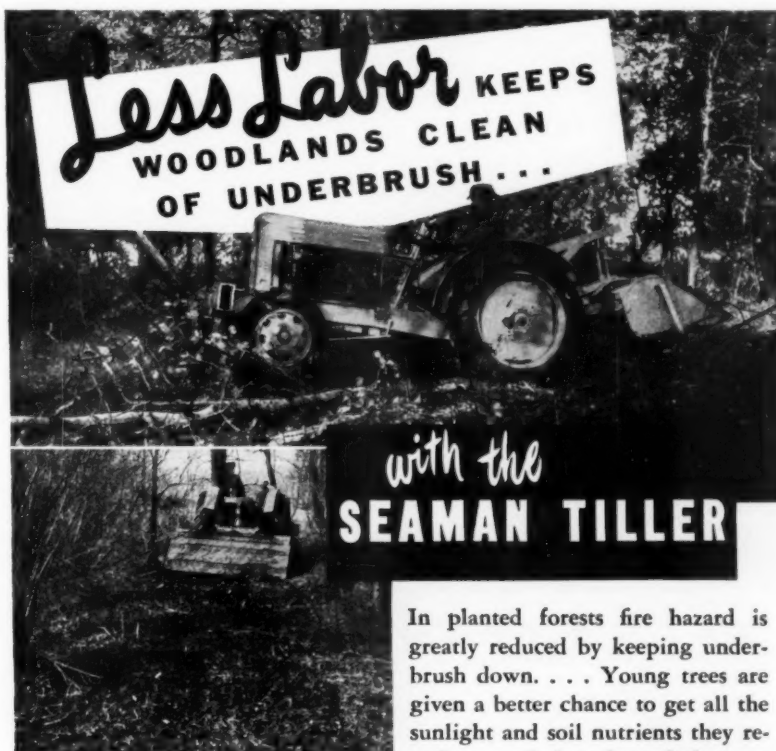
The major appropriation also includes \$560,000 for control and eradication of gypsy and brown-tail moths.

Of special interest is a contingency fund of \$2,000,000 for detection and suppression of outbreaks of forest pests before extensive damage is done and while infected areas requiring treatment would be small. A similar contingency fund of \$750,000 is included in the current year's appropriation. This fund filled a major place in providing the means for spraying and treating large forest areas of high-value timber mostly in western National Forests which were affected with spruce budworm and Engelmann spruce beetle. The situation became worse, however, and was so bad by last fall that a supplemental appropriation of \$1,500,000 was requested. On the basis of this experience, the new budget proposes the larger contingent fund. This will be apportioned for use only to the extent that the Secretary of Agriculture, with approval of the Bureau of the Budget, finds the money necessary to meet emergency conditions. Thus, outbreaks of forest insects and diseases are now recognized as emergencies comparable with forest fire.

Forum

(From page 2)

Disease? it's written by a university researcher. Scheduled for an approaching issue is an article by James B. Craig, formerly an *American Forests* associate editor, on New York State's salvage operations of timber blown down by last fall's hurricane.



The SEAMAN chops up and mills-in brush. Even saplings up to 1 1/2" in diameter.

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(Below) Clean path is left by the SEAMAN in cutting through heavy brush and weeds.



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In planted forests fire hazard is greatly reduced by keeping underbrush down. . . . Young trees are given a better chance to get all the sunlight and soil nutrients they require. . . . It is estimated that one

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FIRE LANES. In natural forests the SEAMAN builds permanent fire lanes at low cost. In constructing emergency fire lanes the SEAMAN has high road speed to reach the forest fire quickly and ability to operate wherever a tractor can go. . . . For complete information just write "brush-cutting" on a post card. Write today.

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A chance to get away from the congested cities and crowded highways, riding remote trails, fishing in white waters, exploring nature's last primitive strongholds on horse or by canoe—all these are the wilderness vacation opportunities offered by the American Forestry Association's Trail Riders of the Wilderness. The 13 expeditions for 1951 include two canoe trips. Dates to fit your vacation schedule are:

- June 4-15—Pecos Wilderness, Santa Fe National Forest, New Mexico—\$205 from Santa Fe
- July 5-16—Flathead-Sun River Wilderness, Flathead and Lewis and Clark National Forests, Montana—\$175 from Missoula
- July 10-19—Quetico-Superior canoe trip, Minnesota and the Canadian border—\$170 from Ely, Minn.
- July 16-27—Flathead-Sun River Wilderness, Flathead and Lewis and Clark National Forests, Montana—\$175 from Missoula
- July 22-31—Quetico-Superior canoe trip, Minnesota and the Canadian border—\$170 from Ely, Minn.
- July 24-August 2—Maroon Bells-Snowmass Wilderness, White River National Forest, Colorado—\$190 from Aspen
- July 24-August 3—Sawtooth Wilderness, Sawtooth and Boise National Forests, Idaho—\$188 from Sun Valley
- August 7-16—Maroon Bells-Snowmass Wilderness, White River National Forest, Colorado—\$190 from Aspen
- August 7-17—Sawtooth Wilderness, Sawtooth and Boise National Forests, Idaho—\$188 from Sun Valley
- August 13-25—Cascade Crest Wilderness, Snoqualmie and Columbia National Forests, Washington—\$188 from Yakima
- August 20-September 1—Olympic Wilderness, Olympic National Park, Washington—\$200 from Lake Crescent
- August 29-September 10—Inyo-Kern Wilderness, Inyo and Sequoia National Forests, California—\$205 from Lone Pine
- September 4-15—Pecos Wilderness, Santa Fe National Forest, New Mexico—\$205 from Santa Fe

Write or wire for detailed information and reservations

THE AMERICAN FORESTRY ASSOCIATION
919 Seventeenth Street, N. W.
Washington 6, D. C.

Lure of the Trail

(From page 18)

two are once again canoe trips through the Quetico-Superior Wilderness along the United States border between Minnesota and Ontario. A distinct change of pace and locale from the horseback expeditions, these trips wind through one of the continent's greatest water wildernesses, past tree-studded islands, into broad connecting lakes unsurpassed in fishing excellence. Extremely popular since 1948, the dates this year will be July 10 to 19 and July 22 to 31, with starting point at Ely, Minnesota.

The Pecos Wilderness in the Santa Fe National Forest, New Mexico will be the scene of the first, and also the last, pack trail trip of the season—June 4 to 15, and September 4 to 15. Riders will climb by horseback into an uninhabited back country having elevations ranging from 8500 to 13,300 feet, and they'll have a chance to fish in seldom seen lakes and streams. Trail Riders first explored this colorful section of the Southwest in 1949.

Five other areas will be explored on one or more expeditions scheduled between July and September. They include the always popular Sawtooth Wilderness in Idaho, the Maroon Bells-Snowmass Wilderness of Colorado, the high Cascade Crest country of Washington, the Olympic Wilderness, also of Washington and the Inyo-Kern Wilderness of California.

The Sawtooth Wilderness in the Sawtooth and Boise National Forests of Idaho is a roadless domain of rugged mountains, alpine lakes and pine forests which cradle the headwaters of the Wood, Salmon and South Boise Rivers. The first expedition will enter the Sawtooth country 60 miles from Sun Valley for a period lasting from July 24 to August 3. The second trip will take place between August 7 and 17.

Colorado at its rugged and rocky best is the setting for the Maroon Bells-Snowmass Wilderness trips through the White River National Forest. A land of towering peaks, tumbling mountain streams and beautiful crystal clear lakes, this area was first entered by Trail Riders in 1938. Dates for these expeditions have been set at July 24 to August 2, and August 7 to 16.

As its name indicates, the Cascade Crest expedition travels the crest of the Cascade range on the Snoqualmie and Columbia National Forests. Starting from the Double K Ranch,

60 miles from Yakima, the expedition traverses the Cascades within view of towering Mt. Rainier and Mt. Adams. Bleak pinnacles rising from snowy slopes and glaciers are typical of this high country, while along the timber line is a paradise of mountain flowers and meadows. Only one expedition is scheduled for this area, from August 13 to 25.

Olympic National Park, Washington, scene of the Olympic Wilderness expedition, is a rich empire of evergreens, alpine meadows, wildflowers and azure lakes known only to those who invade it by horse or afoot. Riders travel through dense, moss-covered "rain forests," over ridges and divides to the base of Blue Glacier on the edge of snow-capped Mt. Olympus. The trip offers fine fishing and mountain climbing and an opportunity to take exceptional photographs. This trip is scheduled from August 20 to September 1, beginning from Lake Crescent.

A highlight since 1938, the Inyo-Kern expedition into the High Sierra of California offers America's greatest spectacle in varied and unique mountain scenery. With Mt. Whitney, 14,496 feet above sea level, as a centerpiece, the Sierra Nevada also features intensely blue lakes, mountain flowers in the meadows and contrasting snow fields and glaciers. The trip includes a climb to the summit of Mt. Whitney, then off its face in a breath-taking ride to Lake Tulainyo, highest lake in the United States. This trip is scheduled from August 29 to September 10.

Soups and Chowders

(From page 23)

the bones, etc. and continue to cook for 15 minutes. Cut your fish filets into bite sizes and place them in a heavy iron pot; drain the liquid from the other pot onto the fish and cook for ten minutes. Now add three medium potatoes, diced, and one and a half pints of hot water and cook until they are tender. Next, decant one quart of milk (evaporated or thinned) into the pot and, when it comes to a boil, add several dashes of tabasco sauce, two tablespoons butter, salt and pepper to taste. Serve immediately. Should be enough for eight.

A solid favorite in the North Woods is a corned beef chowder, one that really contains a lot of calories. It is brewed from items normally stocked by the careful camper. In addition it is quickly prepared, an-



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other great virtue. Toss into the pot one can of kidney beans, one can of tomatoes, one can of corned beef. Fry two diced onions in bacon fat, add the other ingredients, plus three dashes of tabasco sauce, half a cup of water. Cook for ten minutes—serve in large portions, flanked by hot johnnycake. Squirrel or rabbit, grouse or pheasant may be substituted for the corned beef. Stew until tender in a little seasoned water, cut into bite sizes before adding to the chowder.

Fishing for bluefish a few years ago, we decided to spend the night on our boat. A lobster boat sold us some lobsters and I promised my companions a lobster bisque—it turned out very nicely and was consumed to the last drop and bite.

I took a pair of two and a half pound lobsters, cooked them in a little water, along with some peppercorns and a tablespoon of vinegar—undercooked them as a matter of fact. When they were done and cool enough to handle, the meat was removed from the shell and large claws and finely chopped. The claws and shells were returned to the kettle and cooked for 20 more minutes in two cups of the original essence. This essence was drained off and placed on the lobster meat and cooked for 15 more minutes.

I then added one quart of milk stirring as the milk went in slowly. I melted six tablespoons of butter and when it was melted, I stirred in two tablespoons of flour and two cups of oyster crackers crushed to a powder—this was added under vigorous stirring. When the mixture thickened, it was seasoned and served. The bisque was rich and invigorating, endowed with a great flavor.

Ever take any finnan haddie with you on a camping trip? If not, you've missed something very nice. Finnan haddie is a salted and delicately smoked haddock—it is now packaged in boneless sections, doesn't take up much room, and is a great emergency ration. As a chowder base finnan haddie is superlative. As a preliminary, cover with cold water, boil for ten minutes and drain, and then flake. To make this chowder, you will need:

- 1 pound finnan haddie
- 2 oz. salt pork
- 3 sliced onions
- 2 cups water
- 2 diced medium potatoes
- 1 quart milk
- Pepper
- 1½ cups evaporated milk (undiluted)

CONSULTING FORESTERS

When in need of the services of a Consulting Forester, members and friends of the Association are urged to write the following for complete information. Other Consulting Foresters are invited to write us for advertising rates in this Department.

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2. Crush out your cigarette, cigar, pipe ashes. Use an ash tray!
3. Drown your campfire, then stir and drown again.
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Sauté the onions in the salt pork until soft, then add water and potatoes and boil for 25-30 minutes, remove from the stove, stir in evaporated milk very slowly, add a dash of Worcestershire sauce, season to taste, reheat and serve with toasted crackers or bread and butter. A tart salad goes very nicely with this chowder, if you happen to have a supply of water cress handy.

No man, even if he is a left-handed cook, needs to go hungry as long as sound soups and fortifying chowders are so easy to make—if you learn to depend on them, you will have more time in the woods or on the water. Besides, soups and chowders get you away from fried foods, the bane of all campers.

There isn't a burp in a barrel of good soup or chowder.

Watts Reports

(From page 26)

of 1950 were the aerial dusting of 940,000 acres of Douglasfir in Oregon to control the spruce budworm and the hand spraying of 800,000 Engelmann spruce trees in Colorado to destroy beetles.

The Chief Forester reports that timber cut on the 151 National Forests during fiscal year 1950 amounted to three and one half billion board feet. Receipts from National Forest timber sales totaled \$30,714,292, an average of \$8.77 per thousand board feet as compared with \$7.69 during fiscal year 1949. The report further calls for additional logging roads for the harvest of inaccessible stands of mature timber on National Forests.

On mining, Mr. Watts points out that present mining laws permit individuals to control a great amount of valuable timber on National Forests, and that approximately 76,000 recorded mining claims cover 1,800,000 acres on National Forests in the West. The area covered in these claims supports an estimated seven billion board feet of timber worth \$58,000,000.

Dr. Rohwer Dies

One of the country's outstanding entomologists, Dr. Sievert Allen Rohwer, 62, died February 12 in Washington. Dr. Rohwer was chief of the Agriculture Department's agency studying biological warfare on animals and crops. A native of Colorado, he had been with the Department since 1909, holding a number of high positions.

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Walter J. Damtoft, a staunch member of the AFA Board of Directors, has been named assistant director of the Forest Products Division of the Economic Stabilization Agency. He will be on leave of absence from his Champion Paper and Fibre Company post while helping to organize and direct the government's price control program on forest products. We feel that a wise choice has been made in selecting a man of Mr. Damtoft's caliber and experience to handle this tough assignment.

AFA's awards committee, headed by Robert N. Hoskins, has issued a call for 1951 nominations. The committee annually nominates five Americans for their outstanding work in various fields of conservation effort, including public service, education, news, radio and industry. The Association's conservation "Oscars" have

so far been awarded to Senator Arthur Capper, Hugh Bennett, Charles F. Evans, Colonel William B. Greeley, Harry A. Wood, J. N. Darling, Wakelin McNeel, Tom Page, Bryce C. Browning, Walter Humphrey and AFA's president, D. C. Everest.

Here's a chance for AFA members to help a worthy project by sending us nominations for the committee's consideration.

The Muskingum Story is now available to AFA members at 50 cents a copy. An attractive, 16-page booklet, illustrated with 18 pictures and an organization chart, gives a highly informative account of the Muskingum Watershed Conservancy District in eastern Ohio. The District, dedicated by the AFA in 1949 as an outstanding example of a locally developed watershed area, is noted for its splendidly efficient organization and

for the spirit of cooperative help rendered by state and federal government agencies. Included in the booklet are many facts not presented before. The operating income and expense data will prove particularly significant, for the District has successfully operated since its beginning without any direct aid from state appropriated monies.

In these days when national, state and local water policies are headline news, AFA's new Muskingum booklet has added significance. AFA members will want to read it and recommend it to their friends and other groups. Special prices will be quoted for any quantity orders.

Headaches on current forestry problems shouldn't bother AFA members if they take advantage of the experienced technical know-how of James P. McWilliams, staff forester. Mac states he supplied 3000 answers last year touching on 59 different technical fields. He says he hasn't been treed yet. As a member of AFA, you are encouraged to use these service department facilities.

Government reorganization as recommended by the Hoover Commission hasn't lost any steam. In these days of huge defense budgets and the increasing tax load, efficiency in every government department should be given paramount attention.

The Citizens Committee for the Hoover Report calls to our attention progress made by Congress in effect-

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James J. Storrow, 1952—New Hampshire, Society for the Protection of New Hampshire Forests.

Vertrees Young, 1951—Louisiana, Executive Vice-President, Gaylord Container Corporation.

ing Hoover Commission recommendations. Armed services reorganization is 95 percent complete. To conservationists the box score on departments handling natural resources should be cause for concern. None of the reorganization recommendations has been effected in the Department of Agriculture, only 20 percent in the Department of the Interior.

W. S. Rosecrans, former president of the AFA, tells us that a new award has been established in California to recognize outstanding service in the cause of forest fire prevention or suppression. Known as the James McLachlan Bissell medal, the award will be made annually by the trustees of the Harvey S. Bissell trust. AFA Californians who know of persons who should be considered are invited to send their nominations to Mr. Rosecrans at 1151 Broadway, Los Angeles 15.

International Society of Tropical Foresters is a new organization established in December for the purpose of keeping tropical foresters in touch with each other. It will serve as a clearing house of information and will acquaint qualified foresters with occupational opportunities in the tropics. Tom Gill, 1214 16th Street, N.W., Washington 6, D. C., formerly associated with AFA, says that tropical foresters interested in joining the new group should get in touch with him.



Newly named AFA Director—Vertrees Young, executive of Gaylord Container Corporation, Bogalusa, Louisiana

Wilson B. Sayers, formerly state forester of West Virginia, has joined the staff of American Forest Products Industries as administrative assistant. AFPI has reorganized its southern branch into two eight-state districts, naming C. Edward Stout southeastern manager with headquarters at Atlanta and Edward L. DeMotte southwestern manager with headquarters at New Orleans.

Vertrees Young, executive vice-president of Gaylord Container Corporation, Bogalusa, Louisiana, has

been elected to the AFA Board of Directors for the year to fill the vacancy caused by the resignation of Chester Davis. Mr. Young, long an honorary vice-president of the AFA, is recognized for his part in the far-reaching forestry conservation and development program of his company, especially its extensive tree planting for more than a quarter of a century which now embraces almost 60,000 acres of man-planted forests. Mr. Young brings to the Association's Board his own practical forestry experience and firm convictions of the responsibilities and opportunities of private forestry management. He also serves as chairman of the Louisiana Forestry Commission.

AFA lost a long time member with the passing in November of P. H. McCanlies, logging manager for the Edward Hines Lumber Company in Oregon. Mrs. McCanlies conveyed the sad information to us when she renewed her membership.

"We both enjoyed AMERICAN FORESTS so much, I just wouldn't feel right if I didn't continue," she said.

Colonel Allen S. Peck, 70, a former vice-president of the American Forestry Association, died February 4 in Denver after a heart attack. With the U. S. Forest Service for 39 years before his retirement in 1944, Colonel Peck played an important part in the development of forest conservation policies and in advancing standards of forestry.

S. L. F.

HONORARY VICE-PRESIDENTS

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Folke Becker — Wisconsin, President, Trees for Tomorrow, Inc.

Raymond J. Brown—New York, Editor, *Outdoor Life*.

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E. J. Condon — Illinois, Sears, Roebuck and Company.

L. A. Danse—Michigan, Member, President's Water Pollution Control Advisory Board.

J. N. Darling—Iowa, Conservation Cartoonist.

Walter E. Disney—California, President, Walt Disney Productions, Limited.

Mrs. Malcolm J. Edgerton—New York, Chairman, Conservation Committee, The Garden Club of America.

Charles F. Evans—Georgia, President, Society of American Foresters.

Ira N. Gabrielson—District of Columbia, President Wildlife Management Institute.

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Walter R. Humphrey — Texas, Editor, *The Fort Worth Press*.

Lee Muck — District of Columbia, Department of the Interior.

A. C. Spurr — West Virginia, President, Monongahela Power Company.

Paul E. Tilford—Ohio, Executive Secretary, National Arborist Association, Inc.

E. W. Tinker — New York, Executive Secretary, American Paper and Pulp Association.

George C. Waldo—Connecticut, Editor, *The Bridgeport Post and Telegram*.

William P. Wharton — Massachusetts, President, National Parks Association.

THE STAFF

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James P. McWilliams—Conservation Department

Dorothy Dixon—Trail Riders

Dorothy Wright—Membership Department

Marjorie Dickie—Book Department

Editorial

ANOTHER SKELETON IN THE DINOSAUR?

If recent puppet-on-a-string manipulations affecting top drawer leaders in the Department of the Interior's National Park Service were to presage a new policy in government administration, a dark pall would indeed cloud the future of conservation.

This ominous observation is occasioned by the cryptic announcement by Secretary of the Interior Oscar L. Chapman that Newton B. Drury, Director of the National Park Service since 1940, will resign as of April 1. The resulting appointments to fill vacancies, effected in almost the same breath, are accompanied with much more elaboration.

Here, briefly, is the gist of Secretary Chapman's reasoning: In recognition of the able career employees within the Department, Arthur E. Demaray will be elevated from his post as associate director to fill the vacant director's chair. Conrad L. Wirth will be promoted from assistant to associate director, and Ronald F. Lee, chief of the Park Service History Division, will be moved up the ladder to assistant director.

On the face of it, there is no quarrel with such thinking. Mr. Demaray, according to the record, launched his career of government service in the Interior Department 48 years ago as a \$400-a-year messenger, devoting periods of service to the Bureau of Reclamation and to Geological Survey before entering the National Park Service in 1917, the year after its organization. Beginning as a topographic draftsman, he has earned steady advancement. Mr. Wirth, too, can be considered in the career category, having been with the Park Service for 20 years. There is no question concerning the capabilities of these men, and they may well perform their new duties with distinction. The same can be said for Mr. Lee.

Quite probably, though, Mr. Demaray won't be on the scene much longer than a year, for his request for retirement had already been approved when he was suddenly offered the directorship.

There is, however, a flood of pertinent queries bubbling on the lips of many having the occasion and opportunity to be familiar with the situation. Foremost of these is a satisfactory reason for Mr. Drury's resignation. Secretary Chapman's office is somewhat less than voluble on this point, other than to dismiss the subject with the statement that Mr. Drury wishes to leave government service to enter private business. Mr. Drury himself is significantly tight lipped.

There is a possibility of congressional inquiry involving charges of arbitrary treatment of an outstanding public servant, a number of leading conservationists previously having protested unsuccessful-

fully to President Truman. According to a usually reliable source, Secretary Chapman is said to have offered Director Drury a newly created post—special assistant to the Secretary of the Interior. His duties would presumably have been to direct studies of proposals which might affect the conservation of natural resources, with a view toward harmonizing them with departmental policy—but the position would carry a lower salary than that of the Director. The intent of such a gambit seemed transparent enough to bring about Mr. Drury's resignation.

Such action is without parallel. The history of National Park Service administration points to a high caliber of directorial leadership from such distinguished predecessors as Arno B. Cammerer, Horace M. Albright and Stephen T. Mather. It was to the credit of former Secretary Harold L. Ickes that he wheedled Mr. Drury away from the California Save-the-Redwoods-League in 1940 to take a post in an administration of opposite political views. Now, at a time when he is still ably carrying the banner for conservation, he is given no other alternative but to resign.

Could there, by chance, be any connection with the not-yet-settled issue of dam building within the Dinosaur National Monument in Colorado and Utah, against which Director Drury argued at Departmental hearings last spring? At the time, he and other champions of conservation lost their argument to Interior's Bureau of Reclamation, although the matter will likely be aired again when Congress weighs appropriation of funds necessary to begin construction.

Or, equally as likely is the possibility of pressure having been brought to bear from special interest groups in the West. Nor should one rule out the likelihood of sniping from other branches within the Department. Director Drury has on occasion been known to speak up boldly on matters in which he had strong convictions, and he was never one to toady in an effort to curry favor.

At stake, however, is much more than the disposition of one man's job. Of basic concern is the question of a new principle in casting off and selecting administrative leaders. Certainly conservation, or any other cause, will suffer if we abandon the custom of seeking out the most qualified man in the nation to direct our vital land use programs. Nor will government be able to entice such caliber of man into a position subject either to pressure or politics.

If, as darkly charged lately, there are good reasons for this treatment of Mr. Drury, they should certainly, in fairness to all, be aired publicly.

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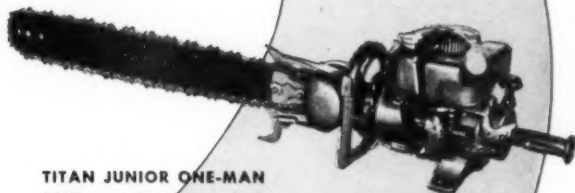
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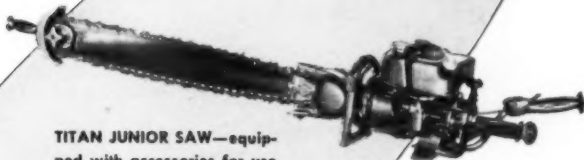
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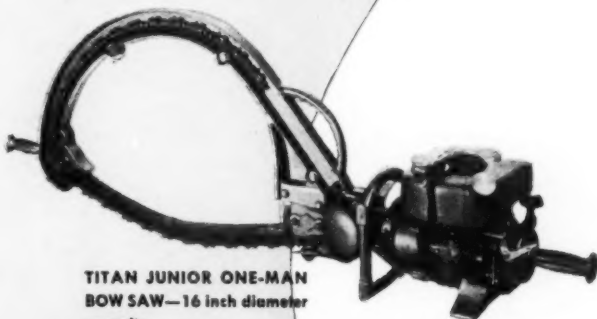
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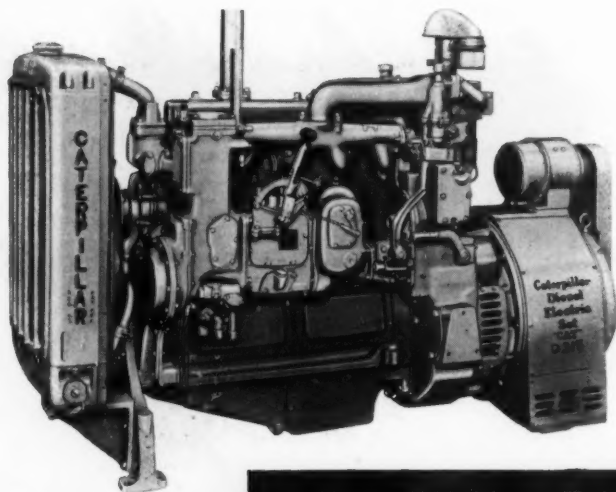
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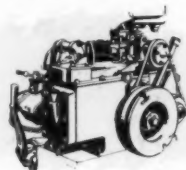
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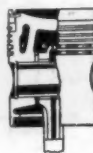


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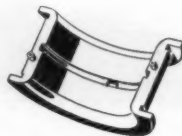
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